Enhanced Delivery of Canada's *Policy for the Management of Fish Habitat* (1986)?

An Evaluation of the Interaction between Fisheries and Oceans Canada and the Fraser Basin Council.

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Abstract

The Fraser Basin Council (FBC) is a non-profit, non-governmental organisation that focuses on the social, economic, and environmental sustainability of the Fraser Basin.

Fisheries and Oceans Canada (DFO) has provided funding support and participated as a partner agency to the FBC, formerly the Fraser Basin Management Program (FBMP), since its inception in 1992. DFO has provided support to the FBC, in part, because the goals and activities to implement the FBC's *Charter of Sustainability*, parallel, complement and support the goals of DFO's *Policy for the Management of Fish Habitat* (Habitat Policy, 1986) and the strategies DFO utilises to achieve these goals.

Given DFO's level of support for the FBC, an evaluation was conducted to determine the effectiveness of the FBC's activities in complementing and supporting delivery of DFO's Habitat Policy and to evaluate the nature, quality and quantity of interaction between DFO and FBC. The primary goal of the evaluation is to provide recommendations on how future involvement and interaction with the FBC can be improved to enhance the conservation of fish and fish habitat.

A detailed questionnaire formed the basis of this report. The questionnaire consisted of 88 questions divided into seven chapters that evaluated: 1) General information on the respondent's background; 2) General information on the respondent's involvement with the FBC; 3) Specific questions relating to the directions of the *Charter for Sustainability*; 4) Basin-wide actions of the FBC; 5) Actions of the FBC in the Upper Fraser (UF) HEB area; 6) Actions of the FBC in the Middle Fraser (MF) HEB area; 7) Actions of the FBC in the Lower Fraser (LF) HEB area.

Forty participants completed the questionnaire, for a response rate of 59%. Questionnaire respondents had an average duration of employment with DFO of 10.5 years and an average duration of employment in the Fraser Basin of 8.3 years. The mean response values ranged between 0.65 to 0.89 on a scale from 0 (None) to 3 (High) for the chapters evaluating the effectiveness of the FBC's activities in complementing and supporting delivery of DFO's Habitat Policy and the nature, quality, and quantity of interaction between DFO and the FBC.

Approximately 90.2% of respondents were unaware who DFO's representative on the FBC was and 87.2% had never received written or verbal progress updates from the DFO representative regarding the FBC's activities. Of the DFO staff that received written progress reports 44% read them. Approximately 56.4% of respondents felt that the FBC had made no effort to initiate contact with DFO and 71.8% felt that DFO had made no effort to initiate contact with the FBC.

The results indicate that there is considerable room for improvement in communication between DFO and the FBC. The data suggests that DFO staff located in RHQ have more awareness of, and interacted more with, the FBC. Recommendations to improve communication and the interaction between the DFO and FBC are discussed.

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Résumé

Le Conseil du bassin du Fraser (CBF) est une organisation non gouvernementale à but non lucratif qui s'est donné pour but d'agir en faveur de la durabilité sociale, économique et environnementale du bassin du Fraser.

Pêches et Océans Canada (MPO) a offert un soutien financier et participe en tant qu'organisme partenaire aux activités du CBF, anciennement nommé le Bureau d'aménagement du bassin du Fraser (BABF), depuis la création de l'organisme en 1992. MPO soutient le CBF en partie parce que les objectifs et les activités liés à la mise en œuvres de la Charte de durabilité du CBF complètent et soutiennent les objectifs de la Politique de gestion de l'habitat du poisson de MPO (Politique sur l'habitat, 1986) et les stratégies que MPO met en œuvre pour atteindre ces objectifs.

Compte tenu du niveau de soutien apporté par MPO au CBF, une évaluation a été effectuée pour déterminer l'efficacité des activités du CBF pour ce qui est de la complémentarité et du soutien à la mise en œuvre de la politique de MPO concernant l'habitat et pour évaluer la nature, la qualité et la quantité des interactions entre MPO et le CBF. L'objectif premier de l'évaluation est de formuler des recommandations concernant la façon d'améliorer la participation future de MPO au CBF et les interactions qui s'en suivraient, afin de rendre plus efficace les efforts de conservation du poisson et de son habitat.

Ce rapport est basé sur les réponses fournis par des répondants à un questionnaire détaillé. Le questionnaire comprenait 88 questions réparties sur sept chapitres. Il a permis de recueillir des renseignements sur 1) l'expérience du répondant; 2) la participation du répondant au CBF; 3) les axes de la charte de durabilité; 4) les actions du CBF à l'échelle du bassin; 5) les actions du CBF dans le cours supérieur du Fraser (haut Fraser); 6) les actions menées par le CBF dans le cours moyen du Fraser; 7) les actions du CBF dans le bas Fraser.

Quarante employés ont rempli le questionnaire, soit un taux de participation de 59 %. En moyenne, les répondants avaient été en fonction 10,5 ans au sein de MPO et avaient travaillé dans le bassin du Fraser pendant 8.3 ans. Les moyennes s'étalaient entre 0,65 et 0,89 sur une échelle allant de 0 (pas efficaces) à 3 (très efficaces) pour les questions évaluant l'efficacité des activités du CBF pour ce qui est de la complémentarité et du soutien à la mise en œuvre de la politique de MPO pour l'habitat et de la nature, de la qualité et de la quantité des interactions entre MPO et le CBF.

Approximativement 90,2 % des répondants ne savaient pas qui était le représentant de MPO au CBF et 87,2 % n'avaient jamais reçu aucun rapport d'étape, écrit ou verbal, du représentant de MPO concernant les activités du CBF. Parmi les membres du personnel de MPO qui avaient reçu des rapports d'étape écrits, 44 % les ont lus. Approximativement 56,4 % des répondants pensaient que le CBF n'avait fait aucun effort pour entrer en contact avec MPO et 71,8 % pensaient que MPO n'avait fait aucun effort pour entrer en contact avec le CBF.

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Les résultats indiquent que la communication entre MPO et le CBF mérite d'être largement améliorée. Les données suggèrent que le personnel de MPO qui travaille dans l'AR est plus conscient de l'existence du CBF et a plus interagi avec lui. Certaines recommandations visant à améliorer la communication et les interactions entre MPO et le CBF sont discutées.

1.0 INTRODUCTION

The Fraser Basin Council (FBC), formerly the Fraser Basin Management Program (FBMP), was established on May 26, 1992 (McElligott *et al.* 1997). The FBC is a non-profit, non-governmental organisation that focuses on the social, economic, and environmental sustainability of the Fraser Basin. The FBC consists of 36 directors, including three representatives from the government of Canada, three representatives from the government of British Columbia, one representative from each of the eight regional governments within the Fraser Basin, and one from each of the eight First Nations language groups that traditionally reside in the Fraser Basin. A further 14 directors serve to represent the FBC's five regional divisions within the Basin (Upper Fraser, Cariboo-Chilcotin, Thompson, Fraser Valley, Greater Vancouver, Squamish, and Pemberton) and the Fraser Basin as a whole.

The vision of the FBC is to make the Fraser Basin a place "where social well-being is supported by a vibrant economy and sustained by a healthy environment" (http://www.fraserbasin.bc.ca). The main function of the FBC is to promote and monitor the implementation of their *Charter for Sustainability* (http://www.fraserbasin.bc.ca). There are four key goals of the *Charter for Sustainability*: Understanding Sustainability, Caring for Ecosystems, Strengthening Communities, and Improving Decision Making.

The FBC activities that support the implementation of the *Charter for Sustainability* include increasing public awareness through communication and education, improving decision making, facilitating and co-ordinating local initiatives and programs, facilitating resolution of interjurisdictional conflicts, building community capacity, and monitoring and reporting progress towards sustainability.

Fisheries and Oceans Canada (DFO) has provided funding support and participated as a partner agency to the FBC since its inception. In the decade spanning 1992 – 2002, DFO has provided approximately 1.7 million dollars of funding to the FBC (Anonymous 1998; McElligott *et al.* 1997; FBC 1998,1999). Moreover, one of the FBC's directors is a representative of DFO. DFO has provided support to the FBC, in part, because the goals and activities to implement the *Charter of Sustainability*, parallel, complement and support the goals of DFO's *Policy for the Management of Fish Habitat* (Habitat Policy, 1986) and the strategies DFO utilises to achieve these goals. The goals of the Habitat Policy are Fish Habitat Conservation, Restoration and Development. These goals are achieved through implementation of the following strategies: habitat protection and compliance, integrated resource planning, research, public consultation, public information and education, co-operative action, habitat improvement, and habitat monitoring.

Given DFO's level of support for the FBC, an evaluation was conducted to determine the effectiveness of the FBC's activities in complementing and supporting delivery of DFO's Habitat Policy and to evaluate the nature, quality and quantity of interaction

between DFO and FBC. The primary goal of the evaluation is to provide recommendations on how future involvement and interaction with the FBC can be improved to enhance the conservation of fish and fish habitat. Recommendations will be provided to study participants, the DFO representative on the FBC, and the FBC itself.

2.0 METHODS

A detailed questionnaire was used to form the basis of this report. The questionnaire was designed to determine the effectiveness of the FBC activities in complementing and supporting delivery of DFO's Habitat Policy. The questionnaire was also structured to evaluate the nature, quality and quantity of interaction between DFO and the FBC to determine how future involvement can be improved to enhance the conservation of fish and fish habitat.

The questionnaire was distributed to all staff in the Habitat and Enhancement Branch (HEB) of DFO that have been employed in the Fraser Basin for greater than one year (minimum) and that have had the potential to interact with the FBC. Sixty-eight questionnaires were issued to DFO offices and Habitat Conservation and Stewardship Program (HCSP) offices throughout the Fraser Basin (Figure 1). The HCSP is a DFO funded program focussed on establishing partnerships to enhance habitat protection and expand community capacity (http://www.hcsp.org). The questionnaires were sent out September 8, 2000 and were accepted until December 7, 2000.

2.1 QUESTIONNAIRE STRUCTURE

The questionnaire consisted of 88 questions structured into the following seven chapters.

1. General information on the respondent's background
2. General information on the respondent's involvement with the FBC,
3. Specific questions relating to the directions of the *Charter for Sustainability*,
4. Questions specific to basin-wide actions of the FBC
5. Questions specific to actions of the FBC in the Upper Fraser (UF) HEB area.
6. Questions specific to actions of the FBC in the Middle Fraser (MF) HEB area.
7. Questions specific to actions of the FBC in the Lower Fraser (LF) HEB area.

The authors requested that each respondent complete chapters one through four. When responding to questions in chapters one through three, participants were instructed to answer from the perspective of their respective HEB geographic areas (Figure 1). Participants were instructed to respond to questions in chapter four from a basin-wide perspective. Chapters five, six, and seven relate to activities of the FBC in specific HEB areas of the Fraser Basin, and as such, participants were instructed to respond only to the geographic area that applies to their responsibilities at DFO.

Participants provided qualifying information in a comments section after each question if they had specific recommendations or if it was necessary to explain or justify a response, particularly if the answer was "unknown" or "none at all". Response options consisted of the following: unknown, none, low, moderate, or high. Some questions required only "yes" or "no" as a response. For questions that required an estimate of the frequency of a given activity, respondents were required to select from several different ranges (e.g. Low 1-2 times/yr., Moderate 3-5times/yr, High 6+ times/yr.). (see Questionnaire in Appendices 1-6).

Figure 1: Distribution of questionnaires within the Fraser River watershed and HEB areas British Columbia, Canada.

2.2 DATA ANALYSIS

The responses reported in the returned questionnaires were entered into a spreadsheet to generate descriptive statistics and to plot trends. Responses were given a numeric value in order to be able to calculate a mean response and standard error for each question, as well as for the entire chapter. Summary plots of numerical values for each question and chapter means are included in the results section (Figures 2 - 7).

The numeric values assigned to question responses are as follows:

None at all = 0
Low = 1.0
Moderate = 2.0
High = 3.0

Data was further analysed and plotted to represent the percentage of each response option (unknown, none, low, moderate, high) within each HEB area (Lower Fraser, Middle Fraser, Upper Fraser, and Regional Headquarters (RHQ)), to determine any area-specific trends. Low, moderate and high response options were combined into one category in the summary of key findings in each chapter of the results section, due to the high number of unknown responses. This combined category represents "some" (knowledge, effectiveness, etc.), in contrast to none at all. When responses were entered as "unknown", "yes" or "no", a numeric value could not be assigned. Questions requiring a "yes", "no", or "unknown" response were presented as a percentage; a mean response value could not be calculated for this type of question. These results are presented in appendices 1-6.

Respondents indicated unknown for many of the questions. These results were presented since the response "unknown", in itself, can be quite telling. However, as discussed above, numerical values were not assigned to the unknown category and therefore, these responses were precluded from the calculations of mean values for each question and chapter (figures 2 – 7).

Some respondents chose not to answer every question in the sections that pertained to them. As a result, the total number of respondents for each question was variable and has been presented for each question to assist in the interpretation of results. Extensive comments were provided for each question. Comments from respondents were edited and collated to form the basis of the discussion. The information presented in the results and discussion sections represents the raw data summarised from the questionnaire respondents and does not include interpretation on behalf of the authors.

3.0 RESULTS

3.1 Chapter 1 Results: Respondent Background

3.1.1 DFO Respondent Position

The positions of staff and the number of questionnaires issued and returned are listed in Table 1. The unknown category represents four questionnaires that were returned anonymously.

Position	Questionnaires Sent Out	Questionnaires Returned
HEB Chief	10	7
Biologist	21	13
Section Head	3	1
Engineer	2	1
Technician/ Technologist	7	5
Community Advisor	6	1
HCSP Habitat Auxiliary	6	3
HCSP Area Co-ordinator	6	4
HCSP Stewardship Co-ordinator	7	1
Unknown	-	4
Total	**68**	**40**

Table 1: The positions of questionnaire recipients, and numbers of questionnaires sent out and returned by each position.

3.1.2 HEB Area

The questionnaire was distributed to 68 DFO and HCSP employees working within the Fraser Basin. Of the 68 questionnaires that were issued, 40 were completed and returned. The numbers and locations of recipients and respondents are listed in Table 2.

Location	Number Mailed Out	Number Returned
DFO Regional Headquarters – Vancouver	13	9
DFO Lower Fraser	18	11
HCSP –Lower Fraser	9	3
DFO BC Interior – South	12	7
HCSP- BC Interior- South	3	1
DFO BC Interior – North	8	7
HCSP – BC Interior – North	5	2
Total	**68**	**40**

Table 2: The locations and numbers of questionnaire recipients and respondents.

3.1.3 Duration of Employment with Fisheries and Oceans Canada

Questionnaire recipients were asked to report how long they had worked for DFO. Of the 40 respondents to the questionnaire, 39 indicated how long they had been employed with Fisheries and Oceans. The individual duration of employment reported among respondents ranged from one to 31 years. The average duration of employment with DFO was 10.5 years.

3.1.4 Duration of Employment within the Fraser Basin Watershed

Questionnaire recipients were asked to report how long they had worked within the Fraser Basin Watershed. Of the 40 respondents to the questionnaire, 39 indicated how long they had been employed within the Fraser Basin. The individual duration of employment within the Fraser Basin reported among respondents ranged from one to 31 years. The average duration of employment within the Fraser Basin was 8.3 years.

3.2 CHAPTER 2 RESULTS: GENERAL INVOLVEMENT WITH THE FBC

The mean score for this chapter (Questions 1-12) was 0.76 ± 0.11 (1 S.E.) on a scale that ranged from 0 to 3.0 (None = 0, Low = 1.0, Moderate = 2.0, High = 3.0) (Figure 2). The data is plotted and presented in appendix 1, key findings are summarised below.

- 61% of staff had some level of interaction with the FBC (question 1), and 87.8% of staff had some level of knowledge regarding the FBC's mandate (question 5).

- 53.7% of respondents had some level of knowledge regarding the *FBC's Charter for Sustainability*. Approximately 53.6% of staff had some level of awareness of the FBC's activities to advance and monitor the directions of the *Charter for Sustainability*. (questions 6 and 7).

- 51.2% of staff were unaware that DFO had a representative on the FBC (question 8). 90.2% of staff did not know the identity of DFO's representative on the FBC (question 9).

- 87.2% of staff had never received written or verbal progress updates from the DFO representative regarding the FBC's activities. Of the DFO staff that received written progress reports, 44% read them (questions 10 and 11).

- 56.4% of staff felt that the FBC had made no effort to initiate contact with DFO. The most effort occurred at RHQ (77.8%) and the least effort occurred at LF (23.1%) (question 2). Approximately 71.8% of respondents felt that DFO had made no effort to initiate contact with the FBC. The most effort occurred at RHQ (55.6%); all the area offices had less than 25% of staff initiate contact with FBC (question 3).

- 37.9% of staff felt that interaction with the FBC has some level of influence on improving delivery of the Habitat Policy (question 4).

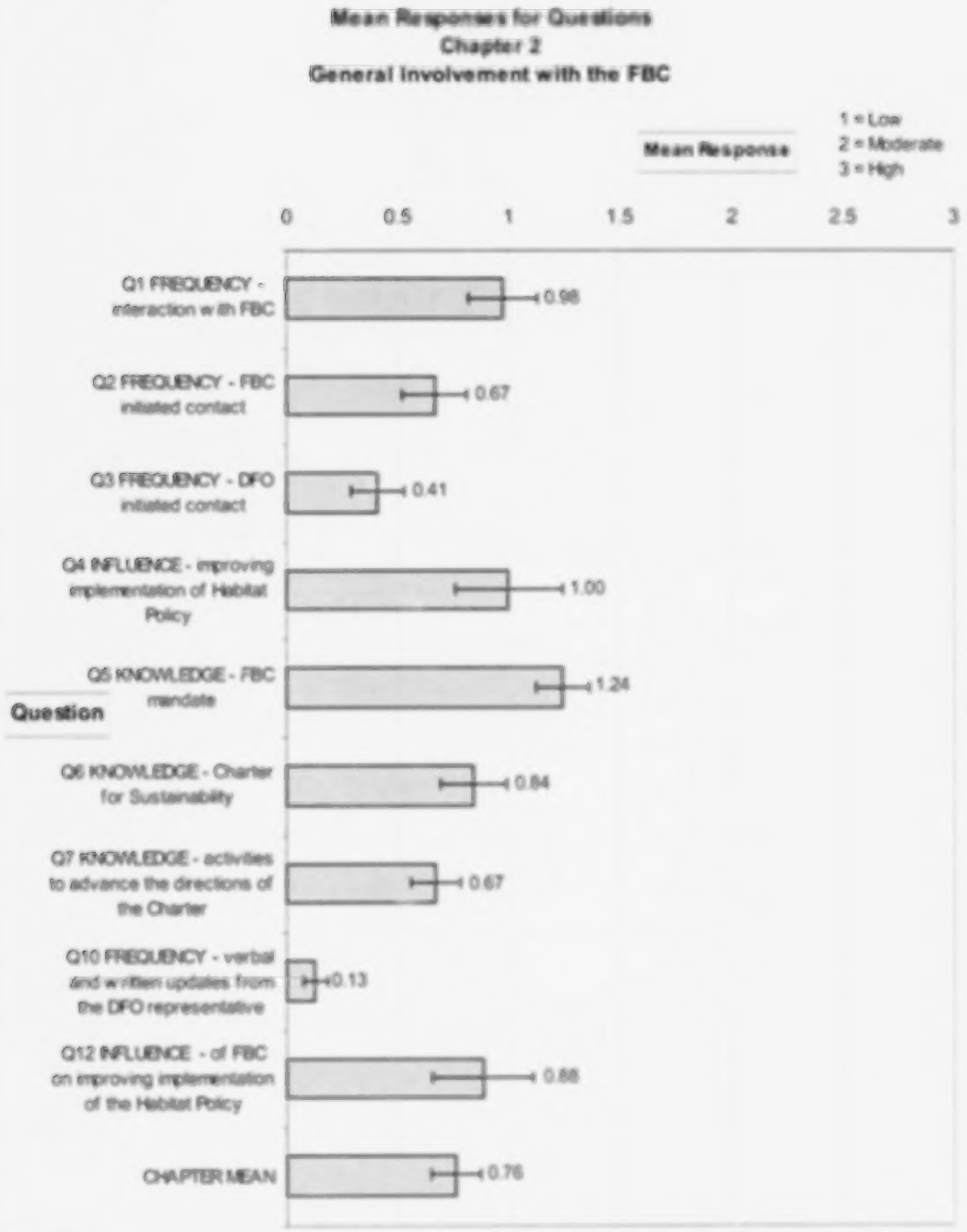

Figure 2: A summary of mean scores and the chapter mean for Chapter 2: General involvement with the FBC. Responses were assigned values as follows: None = 0, Low = 1.0, Moderate = 2.0, High = 3.0. Error bars represent 1 S.E.

3.3 CHAPTER 3 RESULTS: CHARTER FOR SUSTAINABILITY

The mean score for this chapter (questions 13-32) was 0.81 ± 0.08 (1 S.E.) on a scale that ranged from 0 to 3.0 (None = 0, Low = 1.0, Moderate = 2.0, High = 3.0) (Figure 3a-b). The data is plotted and presented in appendix 2, key findings are summarised below.

- 63.4% of DFO staff had some level of knowledge regarding the progress reports (Report Cards) released by the Fraser Basin Management Board (FBMB), the predecessor to the FBC. Approximately 35.9% of staff indicated these progress reports to have some degree of effectiveness in raising the level of awareness of fish and fish habitat (questions 13-14).

- 39% of respondents felt that the FBC were effective in encouraging awareness of, and actions for, environmental sustainability (with respect to fish and fish habitat). (70% of RHQ staff felt the FBC were effective in this initiative; in each HEB area, 21.3% (LF), 25% (MF), and 44.4% (UF) of staff felt the FBC were effective in this initiative) (question 16).

- 4.9% of staff felt that the FBC's involvement in international work had some applicability to supporting the Habitat Policy for fish and fish habitat of the Fraser Basin. Approximately 90.2% of staff were unaware of this FBC activity (questions 18 and 19).

- 17% of DFO staff made some effort to request support from the FBC on public awareness and education initiatives (question 20).

- 62.5% of respondents were aware of the involvement of the FBC on specific local initiatives in order to show evidence of concrete actions and measurable results (with respect to fish and fish habitat). Approximately 39.1% of respondents felt the FBC had some level of effectiveness in this activity (questions 21-22).

- 26.8% of staff felt the FBC's involvement in local initiatives had some level of influence upon the delivery of the Habitat Protection and Habitat Improvement Strategies of the Habitat Policy (question 23).

- 40.5% of respondents indicated the FBC had some level of involvement in facilitation of inter-jurisdictional issues and conflicts (with respect to fish and fish habitat). Approximately, 26.8% of staff felt the FBC had some level of effectiveness in this activity. Approximately 10.2% of staff felt the FBC had not remained neutral when facilitating conflict resolution (these respondents were distributed among 3 different HEB areas) (questions 24-26).

- 77.8% of DFO staff had made no effort to contact the FBC to request support on conflict resolution and facilitation initiatives (question 28).

- 7.5% of respondents felt that the FBC had some level of effectiveness in reducing duplication of existing services and programs (with respect to fish and fish habitat) (question 29).

- 17.5% of respondents felt that the FBC had some level of effectiveness in providing direction to transform decisions into actions (with respect to fish and fish habitat) (question 30).

- 33.4% of DFO staff indicated the FBC had some involvement in facilitating meetings from the initial stages to guiding the process to ultimate solutions (with respect to fish and fish habitat). Approximately 25.6% of respondents felt they had some level of effectiveness in this activity (question 31-32).

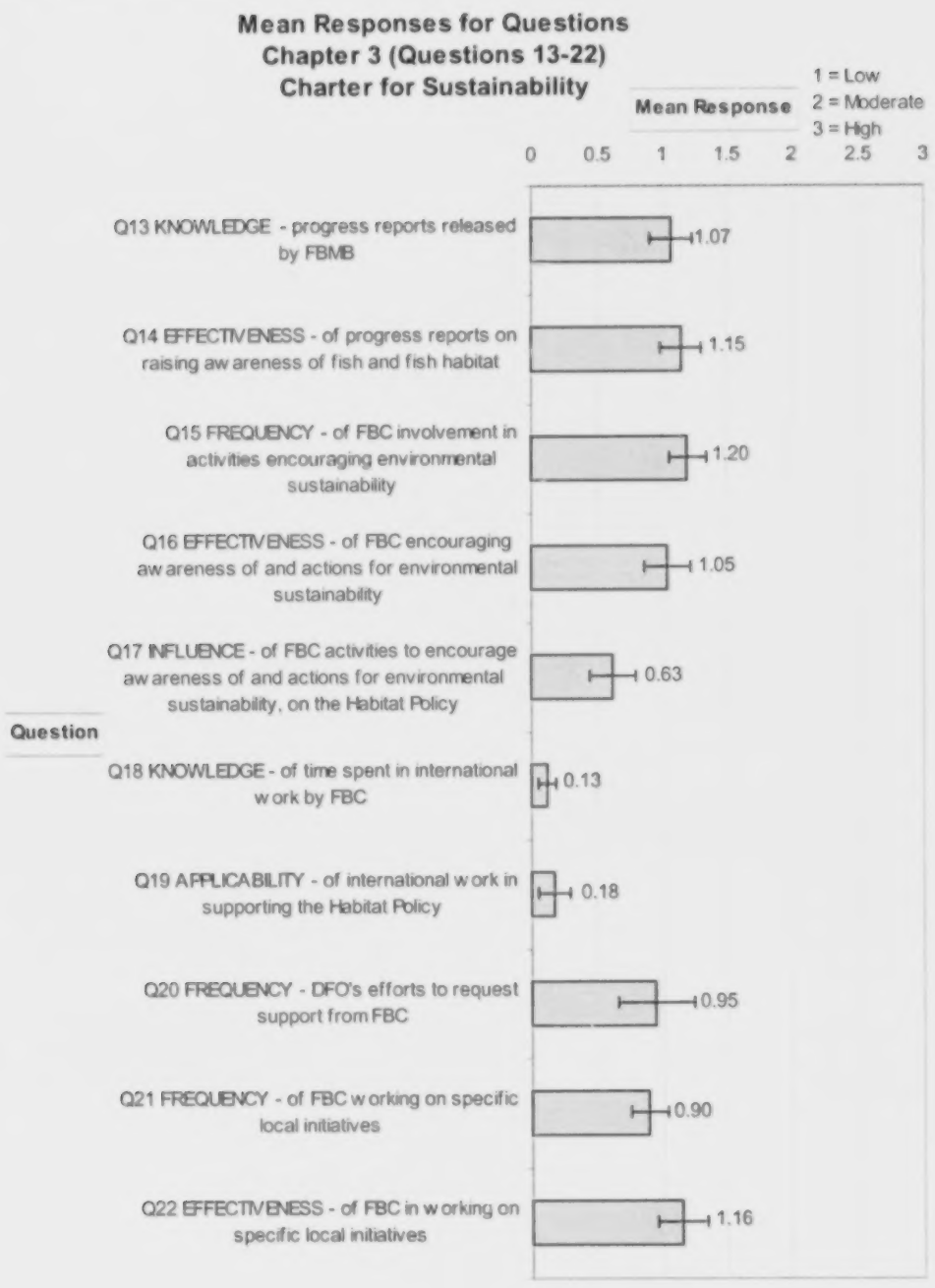
Mean Responses for Questions
Chapter 3 (Questions 13-22)
Charter for Sustainability
1 = Low
2 = Moderate
3 = High
Mean Response
0
0.5
1
1.5
2
2.5
3
Question
Q13 KNOWLEDGE - progress reports released by FBMB
1.07
Q14 EFFECTIVENESS - of progress reports on raising awareness of fish and fish habitat
1.15
Q15 FREQUENCY - of FBC involvement in activities encouraging environmental sustainability
1.20
Q16 EFFECTIVENESS - of FBC encouraging awareness of and actions for environmental sustainability
1.05
Q17 INFLUENCE - of FBC activities to encourage awareness of and actions for environmental sustainability, on the Habitat Policy
0.63
Q18 KNOWLEDGE - of time spent in international work by FBC
0.13
Q19 APPLICABILITY - of international work in supporting the Habitat Policy
0.18
Q20 FREQUENCY - DFO's efforts to request support from FBC
0.95
Q21 FREQUENCY - of FBC working on specific local initiatives
0.90
Q22 EFFECTIVENESS - of FBC in working on specific local initiatives
1.16

Figure 3a: A summary of mean scores for Chapter 3: Charter for Sustainability. Responses were assigned values as follows: None = 0, Low = 1.0, Moderate = 2.0, High = 3.0. Error bars represent 1 S.E.

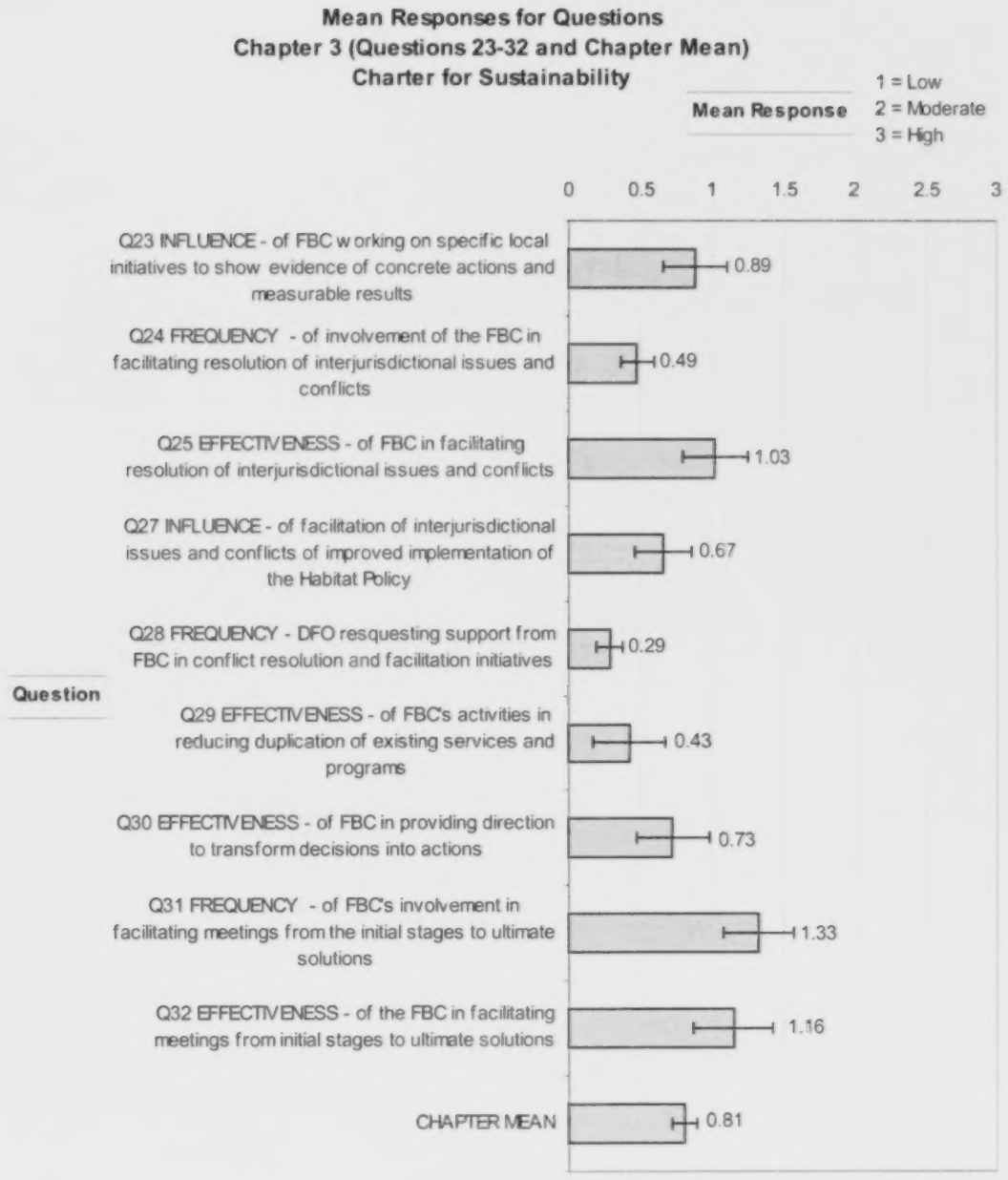
Mean Responses for Questions
Chapter 3 (Questions 23-32 and Chapter Mean)
Charter for Sustainability
Mean Response
1 = Low
2 = Moderate
3 = High
0
0.5
1
1.5
2
2.5
3
Q23 INFLUENCE - of FBC working on specific local initiatives to show evidence of concrete actions and measurable results
0.89
Q24 FREQUENCY - of involvement of the FBC in facilitating resolution of interjurisdictional issues and conflicts
0.49
Q25 EFFECTIVENESS - of FBC in facilitating resolution of interjurisdictional issues and conflicts
1.03
Q27 INFLUENCE - of facilitation of interjurisdictional issues and conflicts of improved implementation of the Habitat Policy
0.67
Q28 FREQUENCY - DFO resquesting support from FBC in conflict resolution and facilitation initiatives
0.29
Question
Q29 EFFECTIVENESS - of FBC's activities in reducing duplication of existing services and programs
0.43
Q30 EFFECTIVENESS - of FBC in providing direction to transform decisions into actions
0.73
Q31 FREQUENCY - of FBC's involvement in facilitating meetings from the initial stages to ultimate solutions
1.33
Q32 EFFECTIVENESS - of the FBC in facilitating meetings from initial stages to ultimate solutions
1.16
CHAPTER MEAN
0.81

Figure 3b: A summary of mean scores and the chapter mean for Chapter 3: Charter for Sustainability. Responses were assigned values as follows: None = 0, Low = 1.0, Moderate = 2.0, High = 3.0. Error bars represent 1 S.E.

3.4 CHAPTER 4 RESULTS: FBC BASIN WIDE ACTIONS

The mean score for this chapter (questions 33-41) was 0.83 ± 0.19 (1 S.E.) on a scale that ranged from 0 to 3.0 (None = 0, Low = 1.0, Moderate = 2.0, High = 3.0) (Figure 4). The data is plotted and presented in appendix 3, key findings are summarised below.

- 87.2% of staff had never been contacted by the DFO-FBC representative to request input from DFO regarding the FBC's activities (question 33).

- 70.8% of respondents had no knowledge regarding the FBC's Five Year Action Plan. Approximately 12.2% of staff indicated the Five Year Action Plan had some level of effectiveness in providing a mechanism for monitoring, reporting and increasing the profile of fish and fish habitat sustainability issues (questions 34-35).

- 21.9% of respondents felt that the FBC's effort in obtaining Canadian Heritage River status for the Fraser River had an effect on increasing awareness and the profile of fish and fish habitat (question 37).

- 46.3% of respondents had some level of awareness of the FBC's involvement in facilitating the reactivation of the Agassiz Debris Trap, and developing the Regional Debris Management Strategy. Approximately 12.2% of respondents felt they had some level of effectiveness in this activity (questions 38-39).

- 10% of staff felt that there were activities that in the past the FBMB and FBC were involved in, that benefited fish and fish habitat, that have been discontinued (question 40).

- 30.8% of staff felt that there are specific activities within their area, that complement the FBC's Charter for Sustainability and support the protection of fish habitat, that they would like to see the FBC get involved in (question 41).

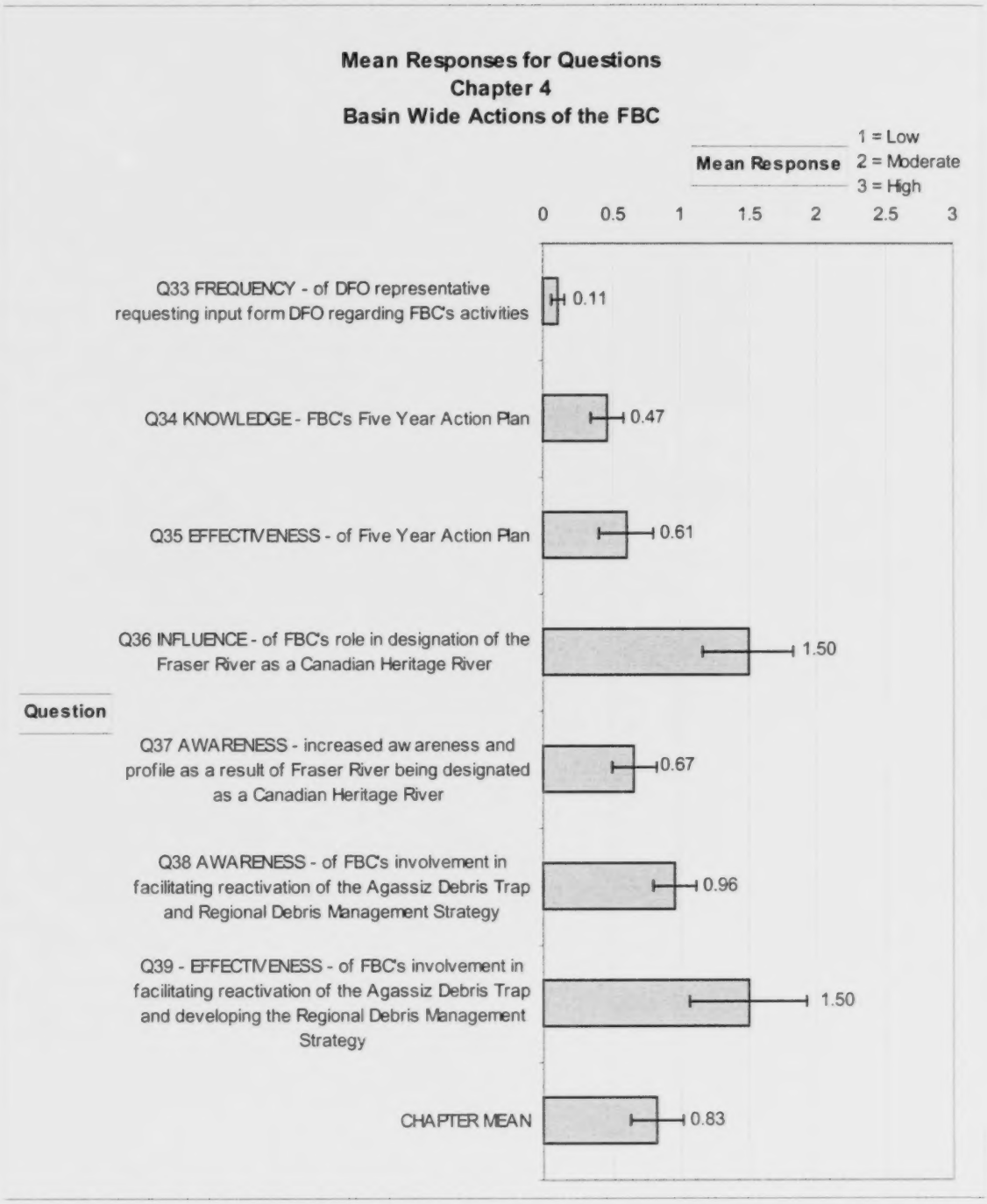
Mean Responses for Questions
Chapter 4
Basin Wide Actions of the FBC
Mean Response
1 = Low
2 = Moderate
3 = High
0
0.5
1
1.5
2
2.5
3
Q33 FREQUENCY - of DFO representative requesting input form DFO regarding FBC's activities
0.11
Q34 KNOWLEDGE - FBC's Five Year Action Plan
0.47
Q35 EFFECTIVENESS - of Five Year Action Plan
0.61
Q36 INFLUENCE - of FBC's role in designation of the Fraser River as a Canadian Heritage River
1.50
Question
Q37 AWARENESS - increased awareness and profile as a result of Fraser River being designated as a Canadian Heritage River
0.67
Q38 AWARENESS - of FBC's involvement in facilitating reactivation of the Agassiz Debris Trap and Regional Debris Management Strategy
0.96
Q39 - EFFECTIVENESS - of FBC's involvement in facilitating reactivation of the Agassiz Debris Trap and developing the Regional Debris Management Strategy
1.50
CHAPTER MEAN
0.83

Figure 4: A summary of mean scores and the chapter mean for Chapter 4: Basin Wide Actions of the FBC. Responses were assigned values as follows: None = 0, Low = 1.0, Moderate = 2.0, High = 3.0. Error bars represent 1 S.E.

3.5 CHAPTER 5 RESULTS: Upper Fraser River HEB Area

The mean score for this chapter (questions 42-57) was 0.65 ± 0.16 (1 S.E.) on a scale that ranged from 0 to 3.0 (None = 0, Low = 1.0, Moderate = 2.0, High = 3.0) (Figure 5a-b). The data is plotted and presented in appendix 4, key findings are summarised below.

- 30% of staff felt the FBC had some level of effectiveness in establishing the Nechako Watershed Council (question 42).

- 30% of respondents felt the FBC's involvement in the Nechako Watershed Council resulted in some level of effectiveness in facilitation, and improved decision making. 10% of staff indicated this involvement had some level of influence on improved fish habitat protection (questions 43-45).

- 50% of staff felt the FBC had some level of effectiveness in facilitating the multi-interest involvement process to review, assess and report on options available for downstream enhancement of the Nechako Environmental Enhancement Fund. Approximately 20% of respondents indicated the FBC had some level of effectiveness in their efforts to develop and implement a water management planning process for the Nechako Watershed (questions 46-47).

- 20% of respondents felt that the FBC's involvement in influencing the City of Quesnel to incorporate the principles of the Charter for Sustainability in its revised OCP had a positive influence on fish habitat protection (question 48).

- 40% of staff felt that the FBC had some level of effectiveness upon the establishment of the McMillan Creek Stewardship Group. 30% of respondents felt the FBC had some level of effectiveness upon raising awareness and improving understanding of fish and fish habitat through their involvement with the McMillan Creek Stewardship Project. No staff felt that the FBC had any effect on improving decision making in this activity (questions 49-51).

- The effectiveness of the FBC's role as agency liaison for the Omineca Peace Interagency Management Committee and their influence on the completion of five Land and Resource Management Plans in the Omineca Peace Region was unknown (questions 52-54).

- No respondents felt the FBC's involvement with the Cariboo Chilcotin Regional Resource Board, to facilitate strategic level discussions regarding the implementation of the Cariboo Chilcotin Land Use Plan and provide resource managers detailed directions on how to achieve the intent of the plan, was effective. No respondents felt the FBC's involvement with the Cariboo Chilcotin Regional Resource Board led to improved integrated resource planning (with respect to fish and fish habitat) (questions 55-56).

- No staff felt the FBC was effective in strengthening the Cariboo Chilcotin Fish Enhancement Society or the Cariboo Chilcotin Conservation Society (question 57).

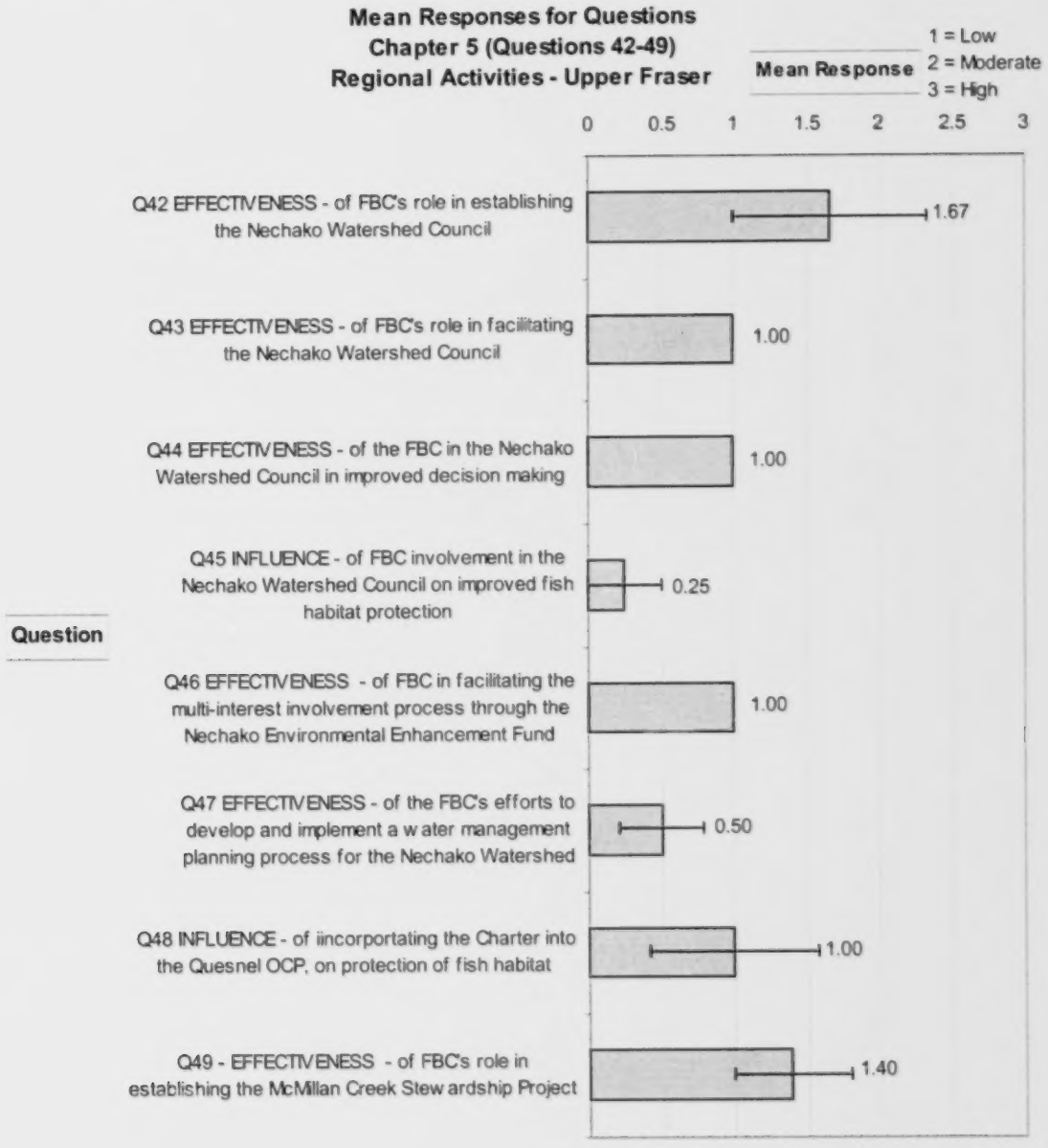
Mean Responses for Questions
Chapter 5 (Questions 42-49)
Regional Activities - Upper Fraser
Mean Response
1 = Low
2 = Moderate
3 = High
0
0.5
1
1.5
2
2.5
3
Q42 EFFECTIVENESS - of FBC's role in establishing the Nechako Watershed Council
1.67
Q43 EFFECTIVENESS - of FBC's role in facilitating the Nechako Watershed Council
1.00
Q44 EFFECTIVENESS - of the FBC in the Nechako Watershed Council in improved decision making
1.00
Q45 INFLUENCE - of FBC involvement in the Nechako Watershed Council on improved fish habitat protection
0.25
Question
Q46 EFFECTIVENESS - of FBC in facilitating the multi-interest involvement process through the Nechako Environmental Enhancement Fund
1.00
Q47 EFFECTIVENESS - of the FBC's efforts to develop and implement a w ater management planning process for the Nechako Watershed
0.50
Q48 INFLUENCE - of iincorportating the Charter into the Quesnel OCP, on protection of fish habitat
1.00
Q49 - EFFECTIVENESS - of FBC's role in establishing the McMillan Creek Stew ardship Project
1.40

Figure 5a: A summary of mean scores for Chapter 5: Upper Fraser River HEB Area. Responses were assigned values as follows: None = 0, Low = 1.0, Moderate = 2.0, High = 3.0. Error bars represent 1 S.E.

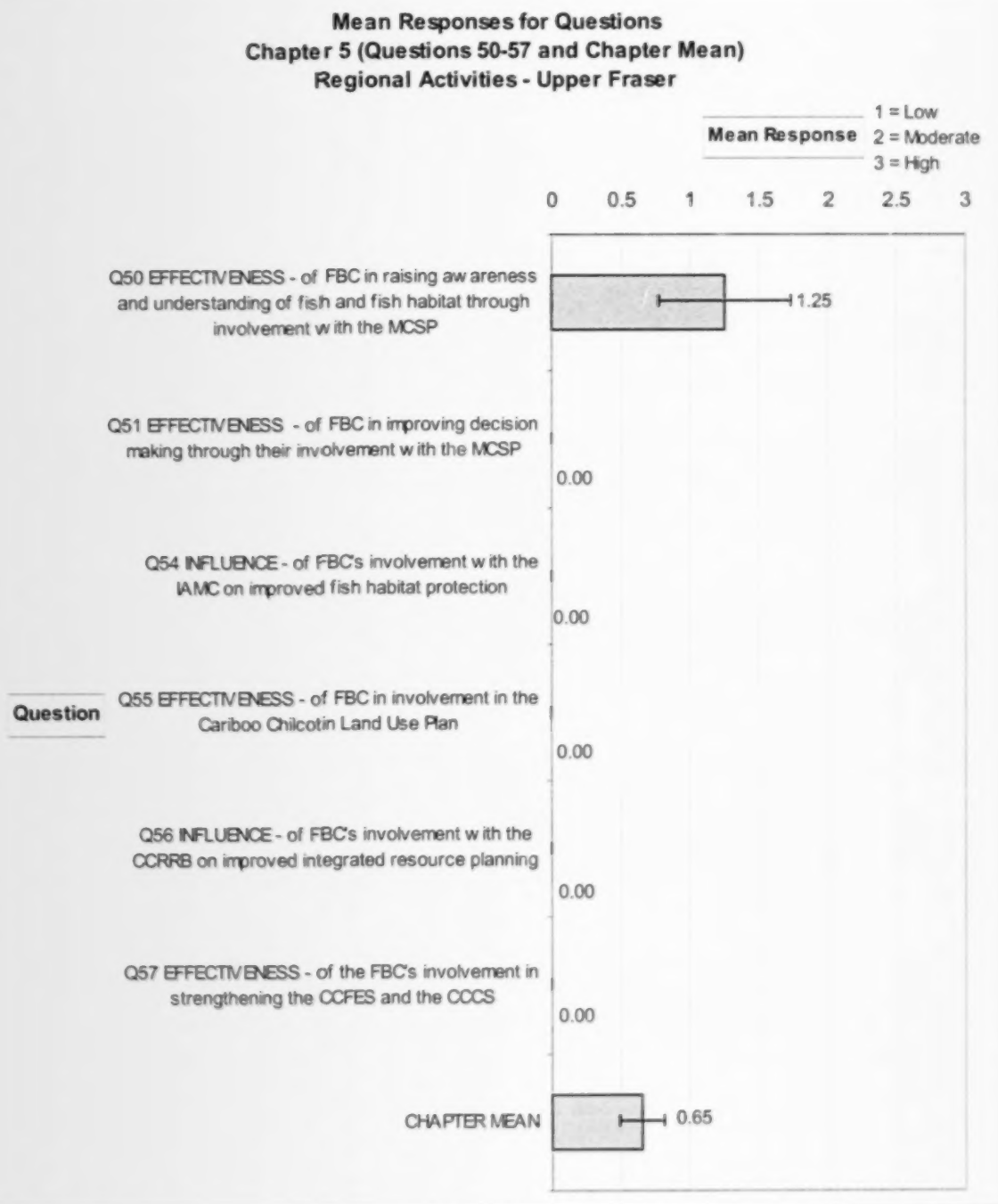
Mean Responses for Questions
Chapter 5 (Questions 50-57 and Chapter Mean)
Regional Activities - Upper Fraser
Mean Response
1 = Low
2 = Moderate
3 = High
0
0.5
1
1.5
2
2.5
3
Question
Q50 EFFECTIVENESS - of FBC in raising awareness and understanding of fish and fish habitat through involvement with the MCSP
1.25
Q51 EFFECTIVENESS - of FBC in improving decision making through their involvement with the MCSP
0.00
Q54 INFLUENCE - of FBC's involvement with the IAMC on improved fish habitat protection
0.00
Q55 EFFECTIVENESS - of FBC in involvement in the Cariboo Chilcotin Land Use Plan
0.00
Q56 INFLUENCE - of FBC's involvement with the CCRRB on improved integrated resource planning
0.00
Q57 EFFECTIVENESS - of the FBC's involvement in strengthening the CCFES and the CCCS
0.00
CHAPTER MEAN
0.65

Figure 5b: A summary of mean scores and the chapter mean for Chapter 5: Upper Fraser River HEB Area. Responses were assigned values as follows: None = 0, Low = 1.0, Moderate = 2.0, High = 3.0. Error bars represent 1 S.E.

3.6 CHAPTER 6 RESULTS: Middle Fraser River HEB Area

The mean score for this chapter (questions 58-65) was 0.86 ± 0.21 (1 S.E.) on a scale that ranged from 0 to 3.0 (None = 0, Low = 1.0, Moderate = 2.0, High = 3.0) (Figure 6). The data is plotted and presented in appendix 5, key findings are summarised below.

- 11.1% of staff felt the FBC had some level of effectiveness in organising and facilitating multiple agencies and interest groups for an information session focussed on protecting water quality in the Bridge River Watershed. No staff felt the FBC's role in this activity improved awareness and protection of fish and fish habitat (questions 58-59).

- 33.3% of respondents indicated the FBC had some level of effectiveness in bringing all parties together to develop a vision for the restoration of the Chase Creek watershed and improving delivery of Habitat Restoration in that watershed (questions 60-61).

- 88.9% of respondents were unaware that the FBC was involved in bringing together First Nations and federal and provincial resource managers to work together in a non-political Inter-governmental Forum on Resource Management (INFORM) to make decisions on resource management (question 62).

- 55.5% of respondents felt the FBC had some level of effectiveness in bringing all levels of government and interested parties together to develop initiatives to solve water quality issues on Shushwap Lake. Approximately 44.4% of respondents felt the FBC involvement in this activity improved fish habitat protection (questions 64-65).

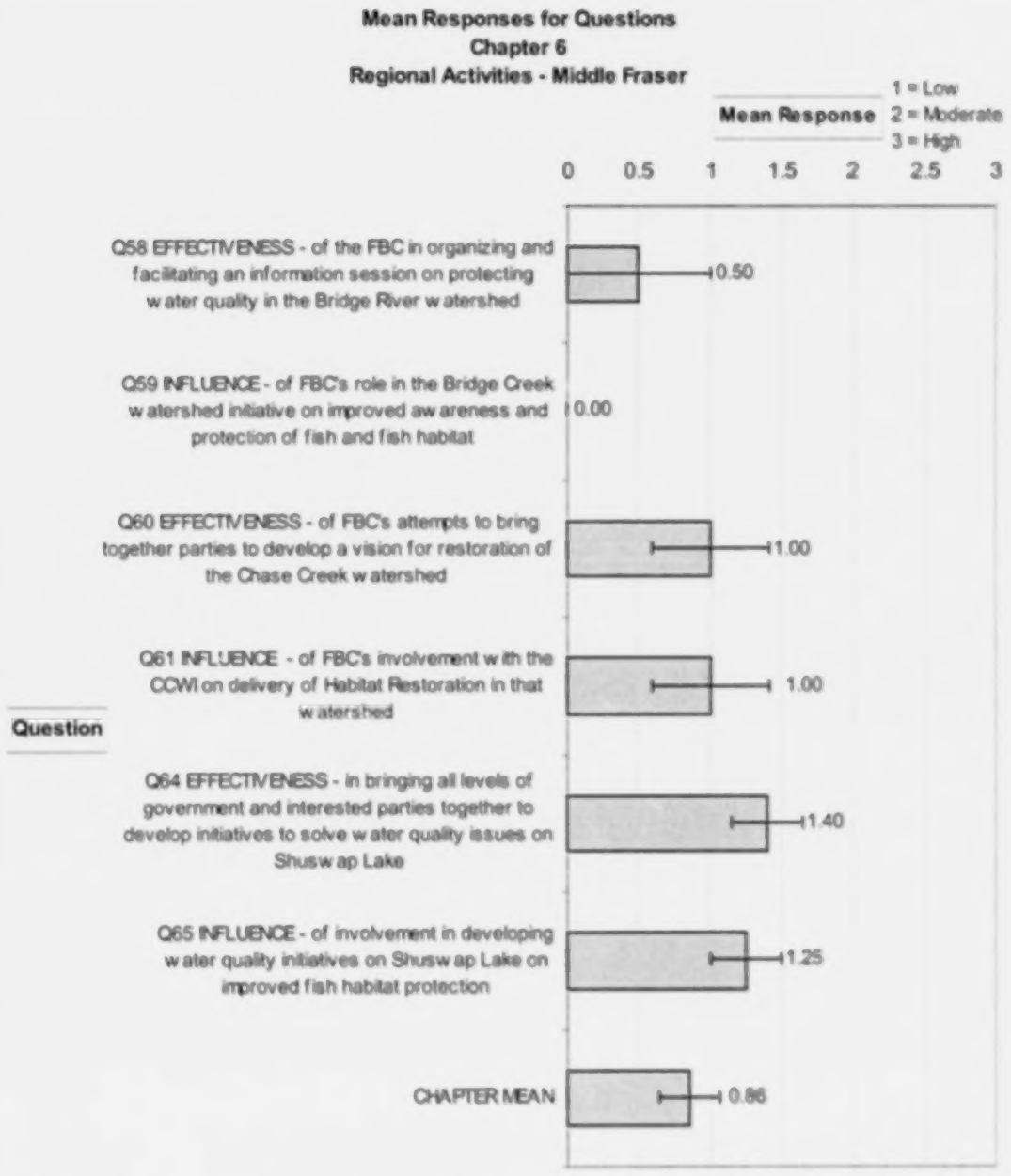
Mean Responses for Questions
Chapter 6
Regional Activities - Middle Fraser
Mean Response
1 = Low
2 = Moderate
3 = High
0
0.5
1
1.5
2
2.5
3
Q58 EFFECTIVENESS - of the FBC in organizing and facilitating an information session on protecting water quality in the Bridge River watershed
0.50
Q59 INFLUENCE - of FBC's role in the Bridge Creek watershed initiative on improved awareness and protection of fish and fish habitat
0.00
Q60 EFFECTIVENESS - of FBC's attempts to bring together parties to develop a vision for restoration of the Chase Creek watershed
1.00
Q61 INFLUENCE - of FBC's involvement with the CCWI on delivery of Habitat Restoration in that watershed
1.00
Question
Q64 EFFECTIVENESS - in bringing all levels of government and interested parties together to develop initiatives to solve water quality issues on Shuswap Lake
1.40
Q65 INFLUENCE - of involvement in developing water quality initiatives on Shuswap Lake on improved fish habitat protection
1.25
CHAPTER MEAN
0.86

Figure 6: A summary of mean scores and the chapter mean for Chapter 6: Middle Fraser River HEB Area. Responses were assigned the following values: None = 0, Low = 1.0, Moderate = 2.0, High = 3.0. Error bars represent 1 S.E.

3.7 CHAPTER 7 RESULTS: Lower Fraser River HEB Area

The mean score for this chapter (questions 66-88) was 0.89 ± 0.10 (1 S.E.) on a scale that ranged from 0 to 3.0 (None = 0, Low = 1.0, Moderate = 2.0, High = 3.0) (Figure 7a,b,c). The data is plotted and presented in appendix 6, key findings are summarised below.

- 19% of respondents felt that the FBC had some level of effectiveness in providing active leadership in developing the Action Plan for Integrated Flood Hazard Management for the Fraser Basin. Approximately 19% of respondents felt the FBC's involvement in this activity improved fish habitat protection (questions 66-67).

- 15% of respondents felt the FBC had some level of effectiveness in facilitating the development of an integrated nutrient management plan for the Lower Fraser Region. No staff felt this FBC activity had any influence on improving fish habitat protection (questions 68-69).

- 5% of respondents felt the FBC's involvement with the Watershed Alliance of Chilliwack (with respect to fish and fish habitat) had some level of effectiveness (question 70).

- 10% of staff felt the FBC had some level of effectiveness during their involvement with the Stave Lake Water Use Plan and the Fraser Valley Regional Watersheds Coalition (with respect to fish and fish habitat) (questions 71-72).

- 9.6% of respondents indicated the FBC had some level of effectiveness during their involvement with the Lower Mainland Inter-Agency Management Committee (IAMC) (with respect to fish and fish habitat) (question 73).

- 4.8% of respondents felt the FBC's involvement with the Lower Mainland Municipal Association Dyking Committee had some level of effectiveness (with respect to fish and fish habitat) (question 74).

- 5% of respondents felt the FBC's involvement with the Abbotsford-Sumas Aquifer International Task Force had some level of effectiveness (with respect to fish and fish habitat (question 75).

- 20% of staff indicated the FBC had some level of effectiveness when they chaired the Alouette River Management Council to work towards helping the District of Maple Ridge develop a watercourse protection bylaw. Approximately 30% of respondents felt the influence of this FBC activity improved fish habitat protection (question 76-77).

- 60% of respondents had some level of awareness regarding the FBC's involvement on the controversial issue of gravel removal from the Fraser River. Approximately

45% of respondents felt this FBC activity improved fish habitat protection (questions 78-79).

- 60% of staff had some level of awareness regarding the FBC's involvement in the development of the Watershed Snap Shot Guidebook, used to assess the health of any watershed. Approximately 9.6% of respondents felt this FBC activity had some level of effectiveness in raising awareness of fish and fish habitat (questions 80-81).

- 75% of staff were unaware of the FBC's involvement with the Georgia Basin Ecosystem Initiative (GBEI) (in particular planning the Basin Forum, a workshop on Georgia Basin issues) (question 82).

- 23.8% of respondents felt the FBC's involvement in the facilitation and co-ordination of the reclamation and remediation of the Britannia Mine had some level of effectiveness (with respect to fish and fish habitat) (question 84).

- 38.1% of staff were aware of the FBC's involvement in hosting a workshop consisting of federal, provincial and local governments to discuss draft Streamside Protection Policy Directives being developed by the Province of British Columbia under the Fish Protection Act. Approximately 19% of respondents felt the FBC had some level of effectiveness in this activity upon improving fish habitat protection (questions 85-86).

- 57.1% of respondents were unaware of the community watershed initiatives the FBC monitors and provides assistance to in the LFV. Approximately 23.8% of respondents felt the FBC had some level of effectiveness in this activity (with respect to fish and fish habitat) (questions 87-88).

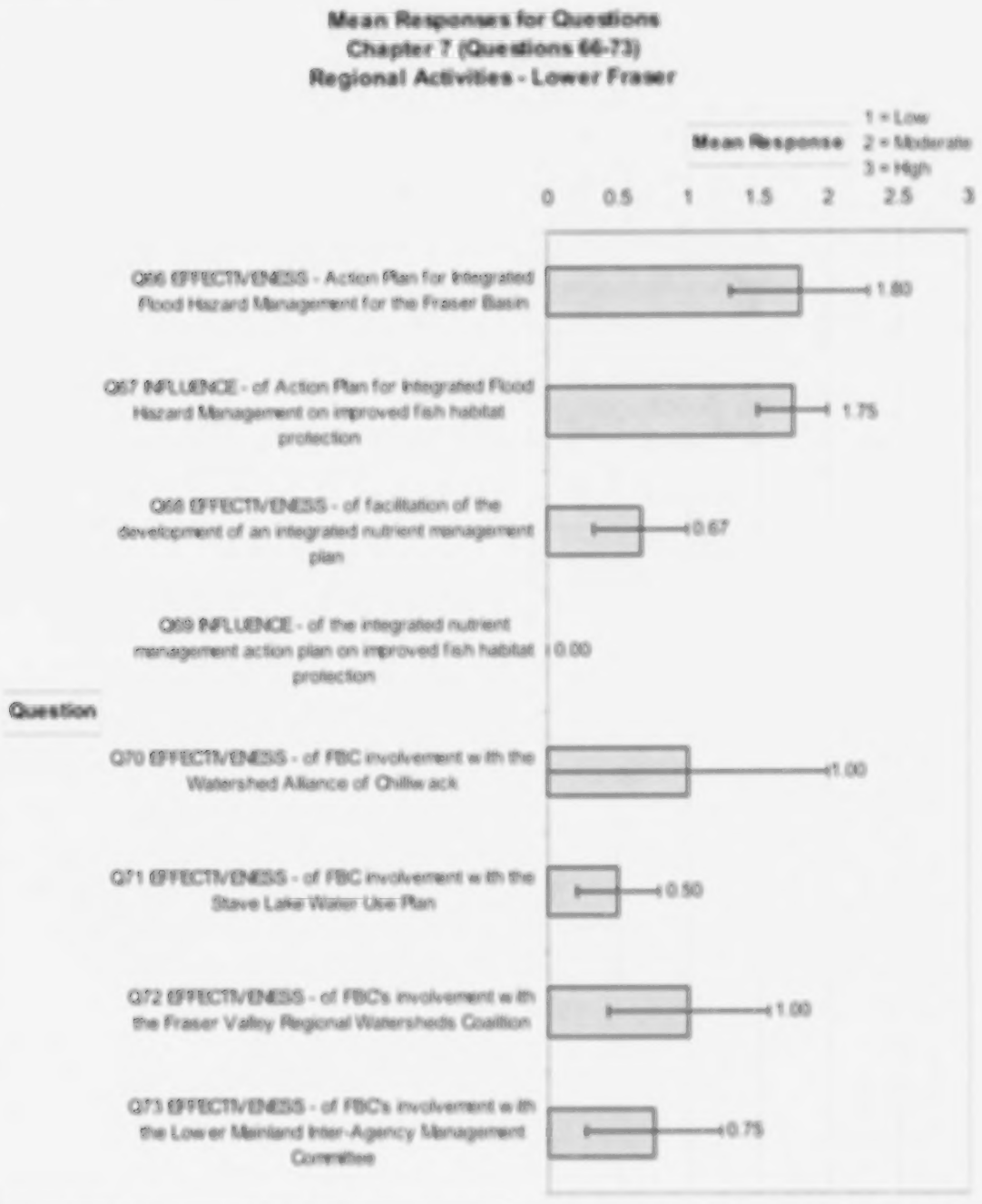
Mean Responses for Questions
Chapter 7 (Questions 66-73)
Regional Activities - Lower Fraser
Mean Response
1 = Low
2 = Moderate
3 = High
0
0.5
1
1.5
2
2.5
3
Q66 EFFECTIVENESS - Action Plan for Integrated Flood Hazard Management for the Fraser Basin
1.80
Q67 INFLUENCE - of Action Plan for Integrated Flood Hazard Management on improved fish habitat protection
1.75
Q68 EFFECTIVENESS - of facilitation of the development of an integrated nutrient management plan
0.67
Q69 INFLUENCE - of the integrated nutrient management action plan on improved fish habitat protection
0.00
Question
Q70 EFFECTIVENESS - of FBC involvement with the Watershed Alliance of Chilliwack
1.00
Q71 EFFECTIVENESS - of FBC involvement with the Stave Lake Water Use Plan
0.50
Q72 EFFECTIVENESS - of FBC's involvement with the Fraser Valley Regional Watersheds Coalition
1.00
Q73 EFFECTIVENESS - of FBC's involvement with the Lower Mainland Inter-Agency Management Committee
0.75

Figure 7a: A summary of mean scores for Chapter 7: Lower Fraser River HEB Area. Responses were assigned the following values: None = 0, Low = 1.0, Moderate = 2.0, High = 3.0. Error bars represent 1 S.E.

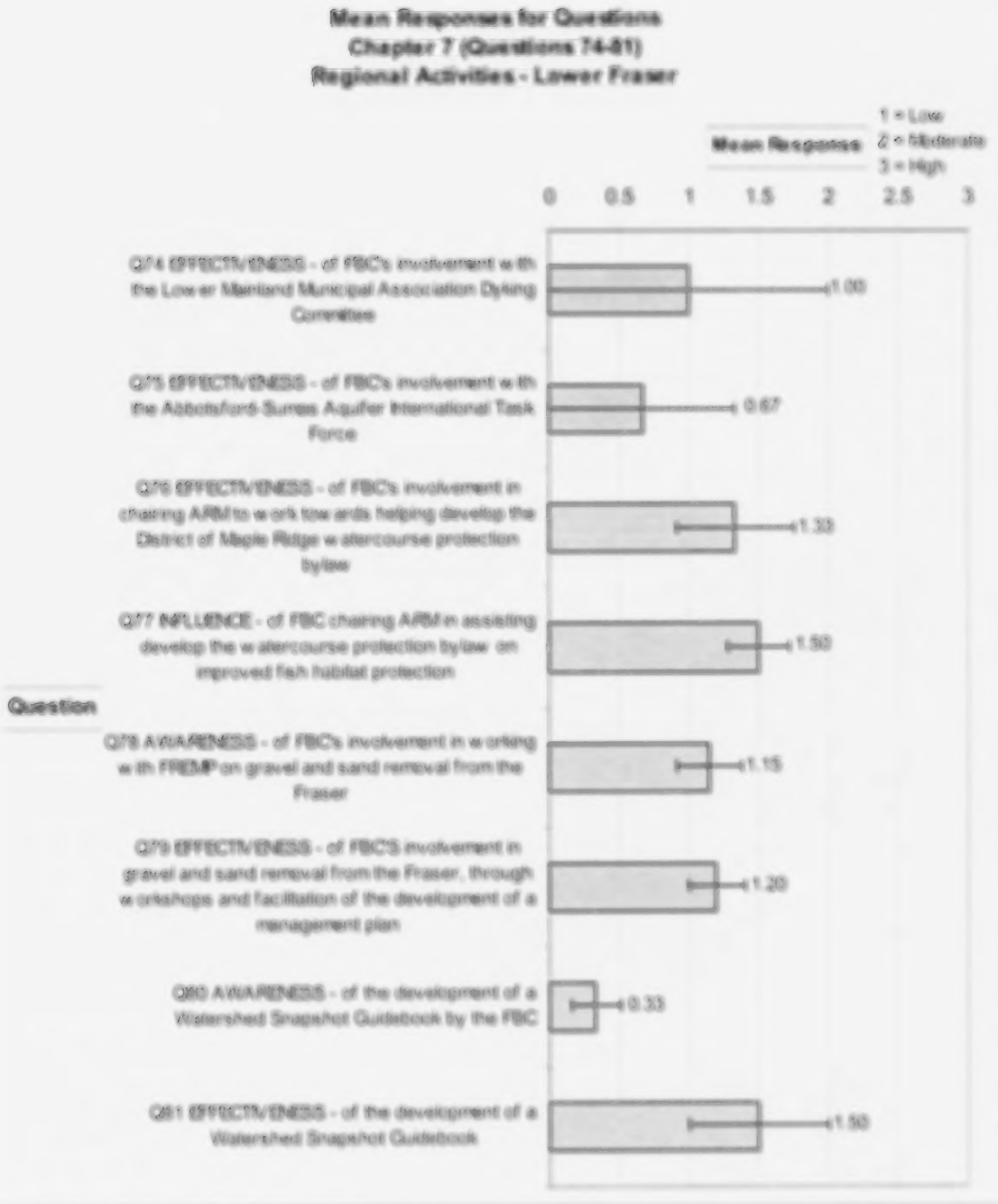
Mean Responses for Questions
Chapter 7 (Questions 74-81)
Regional Activities - Lower Fraser
Mean Response
1 = Low
2 = Moderate
3 = High
0
0.5
1
1.5
2
2.5
3
Q74 EFFECTIVENESS - of FBC's involvement with the Lower Mainland Municipal Association Dyking Committee
1.00
Q75 EFFECTIVENESS - of FBC's involvement with the Abbotsford-Sumas Aquifer International Task Force
0.67
Q76 EFFECTIVENESS - of FBC's involvement in chairing ARM to work tow ards helping develop the District of Maple Ridge watercourse protection bylaw
1.33
Q77 INFLUENCE - of FBC chairing ARM in assisting develop the watercourse protection bylaw on improved fish habitat protection
1.50
Question
Q78 AWARENESS - of FBC's involvement in working with FRESP on gravel and sand removal from the Fraser
1.15
Q79 EFFECTIVENESS - of FBC'S involvement in gravel and sand removal from the Fraser, through workshops and facilitation of the development of a management plan
1.20
Q80 AWARENESS - of the development of a Watershed Snapshot Guidebook by the FBC
0.33
Q81 EFFECTIVENESS - of the development of a Watershed Snapshot Guidebook
1.50

Figure 7b: A summary of mean scores for Chapter 7: Lower Fraser River HEB Area. Responses were assigned the following values: None = 0, Low = 1.0, Moderate = 2.0, High = 3.0. Error bars represent 1 S.E.

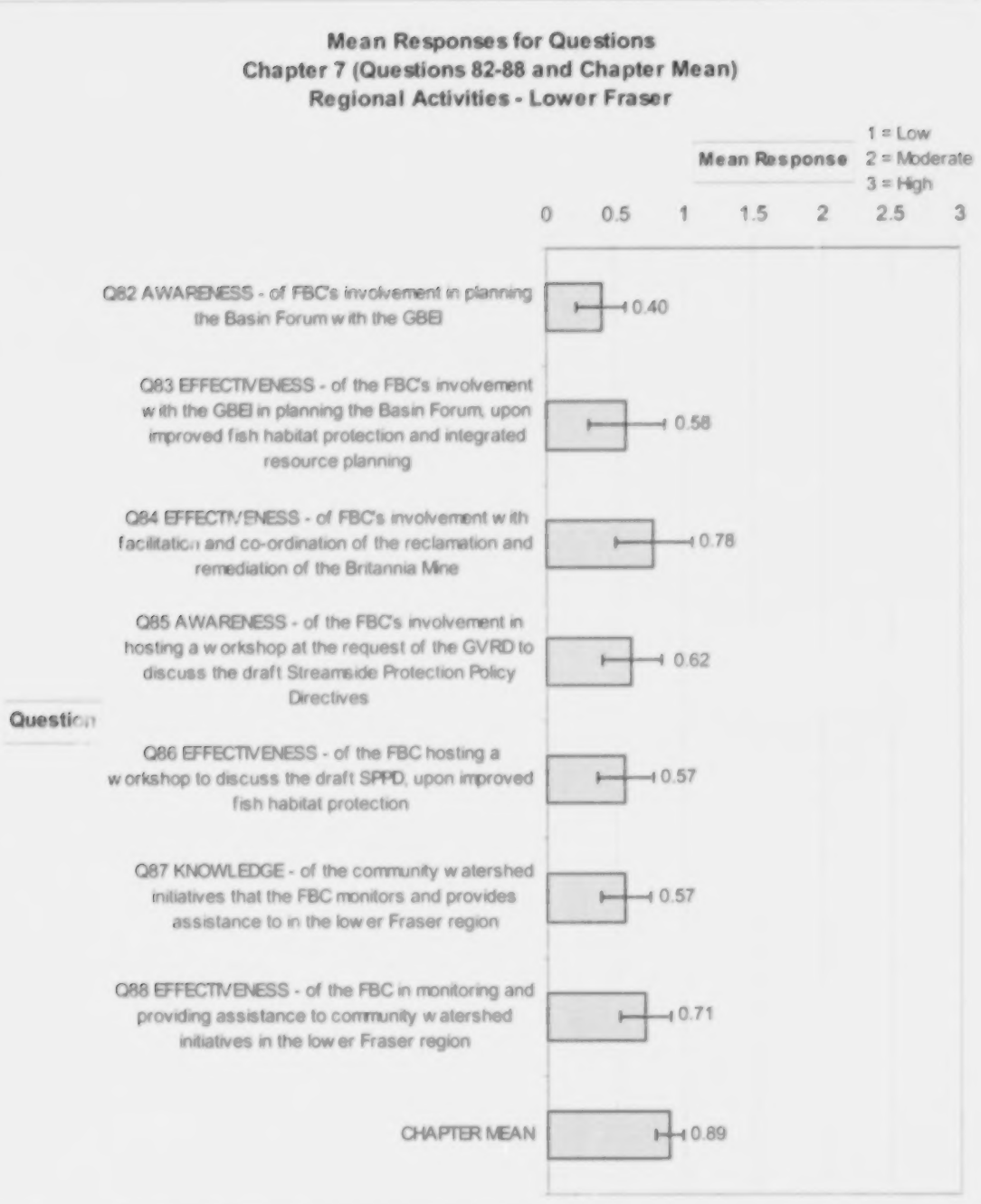
Mean Responses for Questions
Chapter 7 (Questions 82-88 and Chapter Mean)
Regional Activities - Lower Fraser
Mean Response
1 = Low
2 = Moderate
3 = High
0
0.5
1
1.5
2
2.5
3
Q82 AWARENESS - of FBC's involvement in planning the Basin Forum with the GBEI
0.40
Q83 EFFECTIVENESS - of the FBC's involvement with the GBEI in planning the Basin Forum, upon improved fish habitat protection and integrated resource planning
0.58
Q84 EFFECTIVENESS - of FBC's involvement with facilitation and co-ordination of the reclamation and remediation of the Britannia Mine
0.78
Q85 AWARENESS - of the FBC's involvement in hosting a workshop at the request of the GVRD to discuss the draft Streamside Protection Policy Directives
0.62
Question
Q86 EFFECTIVENESS - of the FBC hosting a workshop to discuss the draft SPPD, upon improved fish habitat protection
0.57
Q87 KNOWLEDGE - of the community watershed initiatives that the FBC monitors and provides assistance to in the lower Fraser region
0.57
Q88 EFFECTIVENESS - of the FBC in monitoring and providing assistance to community watershed initiatives in the lower Fraser region
0.71
CHAPTER MEAN
0.89

Figure 7c: A summary of mean scores and the chapter mean for Chapter 7: Lower Fraser River HEB Area. Responses were assigned the following values: None = 0, Low = 1.0, Moderate = 2.0, High = 3.0. Error bars represent 1 S.E.

4.0 DISCUSSION

DFO conducted an evaluation to determine the effectiveness of the FBC activities in complementing and supporting delivery of DFO's Habitat Policy and to evaluate the nature, quality and quantity of interaction between DFO and FBC. The primary goal of the evaluation was to provide recommendations on how future involvement and interaction between DFO and the FBC can be improved to enhance the protection of fish habitat.

Forty staff completed the questionnaire for a return rate of 59%. Non-respondents claimed they had no involvement or knowledge of the FBC; therefore, they felt there was no value in their response, despite the efforts on behalf of the authors to stress the fact that their lack of knowledge or involvement with the FBC was an important result in itself. The level of interaction between the FBC and DFO may therefore be over-estimated by this study since respondents tended to be those staff that had some level of involvement with the FBC.

It should be noted that this evaluation represents the opinions of DFO staff at the time of the questionnaire (Sept – Dec 2000). It is possible that the interaction between DFO and the FBC could have changed since this time. In one instance, BC Interior DFO staff indicated that the communication and interaction between DFO and the FBC has significantly improved since the time of the questionnaire.

4.1 General Involvement with the FBC

Given that the FBC's activities within the Fraser Basin complement and support DFO's Habitat Policy and that DFO has a representative on the Board of Directors, it would be expected that there would be a high level of interaction and communication between the FBC and DFO. However, the primary conclusion that can be drawn from this questionnaire is that communication between DFO and the FBC, and internal communication within DFO, is extremely poor. The fact that approximately 87% of DFO staff had never received written or verbal progress updates from the DFO representative on the FBC, and that 90% of DFO staff were unaware of the identity of DFO's representative on the FBC board of directors, underscores this finding. In an evaluation of the FBMP that included interviews with DFO, British Columbia Ministry of Environment, Lands and Parks (MELP), community groups, and media personnel, McElligott *et al.* (1997) similarly reported that there was significant room for improvement with respect to communication.

The results suggest that RHQ and LF staff have slightly more awareness and interaction with the FBC and that the lack of interaction is particularly acute at the operational level (i.e. field offices). The near absence of communication between DFO and the FBC indicated by respondents has limited many of the results of this questionnaire in terms of highlighting strengths and weaknesses, and providing

recommendations for improvement. Many staff were unable to provide recommendations and comment on the influence of various FBC activities upon delivery of the Habitat Policy because they were completely unaware of the FBC's activities. Respondents indicated that when they had been made aware of the FBC's activities, it was often indirectly, through third parties such as provincial and municipal government counterparts, public review processes, and the Union of British Columbia Municipalities.

It is important to note that this lack of communication is not one-sided. Approximately 56% of staff felt the FBC had made no effort to initiate contact with DFO; however, approximately 72% of DFO staff made no effort to contact the FBC. There is obviously significant room for improvement on behalf of both DFO and FBC in this area.

As a result of the poor communication and interaction between DFO staff and the FBC, DFO's knowledge of the FBC's mandate and Charter of Sustainability was low. Respondents from RHQ appeared to have a greater understanding of the FBC's mandate and Charter for Sustainability. DFO staff with some knowledge of the FBC's mandate "to ensure the Fraser Basin is a place where social well-being is supported by a vibrant economy and sustained by a healthy environment" indicated that it was un-measurable and that it does not include an accountability mechanism. Respondents commented that they felt FBC could be more vocal with respect to raising awareness of their mandate.

Respondents indicated that lack of continuity in DFO representation (staff turnover) on the FBC's Board of Directors and lack of regular attendance undermined the interaction between DFO and the FBC. DFO staff felt that the frequency of interaction between DFO and the FBC was higher during the Fraser River Action Plan (FRAP). Respondents indicated that some FBC staff were very proactive, supportive and interactive with DFO; however, respondents stated that the nature of interaction between DFO and the FBC was more person driven rather than council driven.

Summary

Overall, DFO's general involvement with the FBC is very low. Internal communication within DFO (between DFO rep and staff) with regards to the FBC's activities, and between DFO and the FBC, is also very poor. Respondents indicated that the lack of effort on behalf of DFO to initiate contact with the FBC is partly a reflection of a lack of confidence in their abilities, based on past experiences. These comments highlight the importance of effectively communicating the FBC's activities and successes to their partners.

4.2 The Charter of Sustainability and the FBC's related activities

The FBC activities that support the *Charter of Sustainability* include increasing public awareness through communication and education, increasing knowledge and understanding of sustainability, improving decision making, facilitating and co-ordinating local initiatives and programs, facilitating resolution of inter-jurisdictional conflicts, building community capacity, and monitoring and reporting progress towards sustainability. As previously mentioned, the FBC can support and complement the goals of DFO's Habitat Policy through these activities.

Many respondents commented favourably upon the FBC "Report Card" reports as an effective communication tool with respect to reporting progress towards sustainability and raising public awareness through communication and education. Respondents indicated that the "Report Cards" were particularly effective in raising public awareness of sustainability issues when they were headlines in local newspapers. DFO staff indicated that it was unfortunate that one of the better FBC products ("Report Card" reports) was discontinued. The "Report Cards" were similarly identified in a previous evaluation as one of the principle successes of the FBMP (McElligott *et al.* 1997).

Questionnaire respondents felt that the Report Cards raised public awareness on several issues, including fish habitat issues, but that they needed to be more science-based and specific in terms of suggesting solutions. However, it should be noted that the resources necessary to develop science-based Report Cards would likely be cost prohibitive for the FBC.

DFO staff expressed that the FBC could be more effective in encouraging awareness of, and actions for, environmental sustainability if they gave more presentations to the general public on this topic. Respondents also indicated that there is significant room for improvement for the FBC to work towards changing the attitudes of resource extraction groups towards environmental sustainability.

In an effort to gain knowledge and an understanding of sustainability, the FBC is involved in international work. Respondents felt very strongly that DFO should not be supporting this effort. It should be noted that if the knowledge the FBC acquires internationally is not being communicated effectively (90.2% of staff were unaware of this activity), it is not a useful endeavour. Staff indicated that the FBC's time and energy should be focussed on sustainability (and habitat) issues within the Fraser Basin (as there are many). Respondents further stated that the FBC's involvement in international work reinforces the general feeling that the FBC is isolated from the public of the Fraser Basin.

One of the FBC's activities is to work on specific local initiatives in order to show evidence of concrete actions and measurable results towards environmental sustainability. Staff felt that both the Fraser Gravel Management Program and the Britannia Mine projects were two good local initiatives and that local FBC co-ordinators have done a good job at developing concrete actions towards environmental

sustainability. Respondents also indicated that the FBC's review of farm plans in the United States, to potentially apply to the nutrient management plan in the Fraser Basin, was a positive initiative to further implementation of the Charter for Sustainability.

DFO staff indicated that in some cases the FBC had been effective in providing facilitation services to resolve conflicts. For example, staff felt that the FBC had made a productive contribution in facilitating several Fish Protection Act sessions with local governments, the Chilako Watershed council, and the presentation of the controversial Penfold Landscape Unit Plan. Respondents indicated that in some cases the FBC had remained objective as facilitators and their involvement promoted good meeting/workshop manners. However, based on the questionnaire, there is room for FBC staff to improve on their technical and facilitation skills. In some instances, respondents indicated that FBC representatives acted more as another stakeholder rather than a facilitator and had not remained neutral in their involvement as facilitators. Respondents further stated that the FBC could have initiated resolution of issues before they reached a level of conflict resolution.

For the most part, very little effort is made by DFO staff to request support for public awareness, education, facilitation or conflict resolution from the FBC. DFO staff indicated that confidence in the FBC's ability to provide support in these areas is very low based on past experiences and interactions with the FBC. Respondents stated that they don't think of the FBC when dealing with public education and that instead they use "in house" materials.

Summary:

Overall, DFO's knowledge of the FBC's activities to implement the Charter for Sustainability is very limited. Respondents from RHQ appeared to have a greater understanding of the Charter for Sustainability and the related FBC activities. Generally, respondents indicated that the FBC do carry out most of their stated activities to support the Charter, but are not always effective in doing so.

4.3 Basin Wide Actions

The FBC has a Five-Year Action Plan that details the actions within the Fraser Basin that the FBC will be involved in to ensure that the goals of the Charter for Sustainability are achieved and to ultimately ensure the sustainability of the Fraser Basin. All of the actions are supported through the FBC by providing a mechanism for monitoring, reporting and increasing the profile of sustainability issues, by working as a partner to facilitate the implementation of a specific action, and by providing active leadership in implementing an action.

Very few staff were cognisant of the FBC's Basin Wide Actions, again illustrating the poor communication between DFO and the FBC. Some of the respondents that had

some knowledge of the FBC's Five Year Action Plan, felt it (Action Plan) was not very effective in providing a mechanism for monitoring, reporting and increasing the profile of fish and fish habitat sustainability issues. Respondents indicated that the FBC's Basin Wide Actions would be improved if they had more technical staff and if they played a stronger role in networking and unifying community groups along the Fraser River. McElligott *et al.* (1997) also reported that there was significant room for improvement for the FBMP to capitalize on its potential to serve as a conduit for information transfer among community groups.

Of the mechanisms used for monitoring, reporting, and increasing the profile of sustainability, respondents again indicated that the Fraser Basin "Report Card" was a good tool to raise awareness of environmental sustainability issues.

With regards to the FBC working as a partner to facilitate implementation of specific actions, respondents indicated that involvement in the following discontinued activities were considered to have benefited fish and fish habitat: steering committees directed at water quality and fish protection, the Alouette River Management Council, Basin Status Annual Report Card, and Watershed health overviews (e.g. snapshots of Elk/Ford creeks in Chilliwack). Respondents were generally unaware of the FBC's role in facilitating the designation of the Fraser River as a Canadian Heritage River and the reactivation of the Agassiz Debris Trap.

Approximately 31% of the respondents indicated that there were specific activities within their respective areas in which the FBC should be involved as they complement the FBC's Charter for Sustainability and support the protection of fish habitat. The following were some of the listed activities:

- Direct involvement in Land and Resource Management Plans and other land use planning activities
- Watershed stewardship and watershed management planning
- Urban development and ski hill expansion on the Sea to Sky corridor
- Habitat Conservation and Stewardship Program (HCSP)
- Water Use Planning (BC Hydro, MoELP, DFO)(Wahleach Facility, Bridge/Seton)
- Ensuring local government Official Community Plans (OCPs) and provincial/federal land use decisions are environmentally sustainable
- Public education and awareness of fish and fish habitat initiatives to build community capacity

Summary:

Overall, the general trend for this chapter is that communication between DFO and the FBC is poor. On a positive note, DFO staff indicated that there are many initiatives they felt involvement of the FBC would complement the Charter for Sustainability and support the protection of fish habitat.

4.4 Upper, Middle and Lower Fraser Activities

The FBC has been involved in many initiatives and activities in each respective HEB area within the Fraser Basin. Respondent comments on specific activities within these HEB areas have been combined and collated into the following categories: Public Awareness – Communication and Education; Facilitation/Co-ordination; and Monitoring and Reporting Progress towards Sustainability.

4.41 Public Awareness – Communication and Education

Respondents indicated that the FBC was effective in raising public awareness regarding environmental sustainability in some activities. For example, staff noted that FBC involvement with the Lower Mainland Municipal Association Dyking Committee brought fish habitat protection concerns to the forefront for discussion. Respondents also noted that although the FBC's involvement in various activities fell short of the agencies' expectations, their involvement did have a positive influence by increasing the level of awareness about fish and fish habitat.

It was stated that if the FBC is trying to become a lead organisation in some of the issues the questionnaire outlined, staff didn't understand why the FBC have not made more effort to approach Habitat Field staff. It was noted that HCSP is trying to promote community advocacy for streams and watersheds, and watershed management planning which is potentially a great partnership "in the making" between FBC and HCSP staff.

4.42 Facilitation /Co-ordination

In terms of co-ordination, respondents indicated that the FBC's involvement in establishing some initiatives was valuable (e.g. McMillan Creek Stewardship Projects). Staff also indicated that the FBC have been highly effective in facilitating some initiatives (e.g. development of the gravel management plan to date). Although facilitation was seen as a strength of the FBC by many, some staff indicated that the skills and knowledge of facilitators required improvement.

Staff indicated that the FBC had significant room for improvement in ensuring that co-ordination of multi-stakeholder initiatives represented the entire community. Respondents indicated that First Nations and Environmental Non-Governmental Organisations (ENGOs) dropped out of some processes because they felt industry groups had too much influence and did not have confidence in the process being fair and objective. Respondents stated that in a facilitation/co-ordination capacity the FBC often influenced like-minded groups to agree, but alienated those groups with opposing views. Respondents indicated that participants with opposing views felt FBC facilitators marginalised their issues.

Respondents indicated that the nature of the FBC's involvement in some activities could have been re-structured to provide better results. It was felt that in some cases various processes would be better served if consultants were hired to develop products from these activities and the FBC's role was limited to facilitating information exchange. Respondents indicated that this structure would enable more detailed products, which could include ranked actions based on their potential to protect fish habitat, with technical rationale to support the proposed ranking.

4.43 Monitoring and Reporting Progress towards Sustainability

The regular progress updates by the FBC regarding the gravel management project was indicated to be a strong point in terms of interaction between DFO and FBC. Respondents indicated that if a gravel management plan acceptable to DFO were to be completed, it would potentially have a significant influence on improving implementation of the Habitat Policy.

Respondents reported a relatively high level of awareness regarding the FBC's role in the development of a Watershed Snap Shot Guidebook; however, it was suggested that the FBC needs to move beyond the development of a guidebook by supporting local implementation. Respondents also reported that the Watershed Snap Shot Guidebook could be improved if based more soundly on science.

Summary:

Overall, respondents from the 3 HEB Areas had both positive and negative comments regarding the FBC's involvement in specific activities throughout the Fraser Basin. Although respondents indicated that the FBC's involvement in many activities fell short of the agencies expectations, it was indicated that invariably a positive by-product of the FBC's involvement in activities was the increased profile and awareness of fish and fish habitat issues. DFO respondents suggested that if the FBC's involvement in some activities was limited to facilitating information exchange and consultants were hired to develop products, many processes would be improved. Respondents also indicated that there is room for improvement in the communication between the FBC and operational field staff.

4.5 CONCLUSION

DFO conducted an evaluation to determine the effectiveness of the FBC's activities in complementing and supporting delivery of DFO's Habitat Policy and to evaluate the nature, quality and quantity of interaction between DFO and FBC. DFO has provided support to the FBC, in part, because the goals and activities to implement the *Charter of Sustainability*, parallel, complement and support the goals of DFO's *Policy for the Management of Fish Habitat* (Habitat Policy, 1986) and the strategies DFO utilises to achieve these goals. The goals of the Habitat Policy are Fish Habitat Conservation, Restoration and Development. These goals are achieved through implementation of the following strategies: habitat protection and compliance, integrated resource planning, research, public consultation, public information and education, co-operative action, habitat improvement, and habitat monitoring.

Overall, 40 staff completed the questionnaire for a return rate of 59%. The average duration of the respondents' employment within the Fraser Basin was 8.3 years. It should be noted that some staff remarked that it is difficult to indicate the effectiveness of the various FBC activities since by the very nature of these activities, results are slow to emerge. Furthermore, the results and comments demonstrated that the nature and degree of interaction ultimately depends on the individuals involved; overall it appeared that interaction between DFO and FBC was more person driven rather than council driven. It is evident from the results of the study that:

- There is very limited interaction between DFO and the FBC;
- In terms of communication, there is considerable room for improvement on behalf of both DFO and FBC;
- The FBC presence is stronger and more effective in the Lower Fraser than the Upper and Middle Fraser;
- There are several activities that DFO would like to see the FBC involved with;
- There are several FBC products that are quite valuable and worth continuing;
- The FBC are helpful at implementing the following aspects of the Habitat Policy: Public Consultation (as a facilitator), Public Information and Education, and Co-operative Action.

5.0 RECOMMENDATIONS

The following recommendations are suggested to improve both the interaction between DFO and the FBC and enhance support of DFO's Habitat Policy.

- FBC and DFO staff should communicate regularly (i.e. quarterly) to provide each other with updates on their current activities and issues so that a mutually beneficial relationship can be developed. These meetings will allow DFO staff to convey the importance of fisheries issues as well as raise awareness of DFO's initiatives and implementation strategies for the Habitat Policy.

- DFO and FBC should exchange a contact list of names, phone numbers, addresses, and areas of responsibility so everyone is aware of whom to contact.

- FBC should make an effort to communicate with operational HEB and HCSP staff as well as senior staff.

- The FBC should exert more effort to inform agencies of who they are and what services they are able to provide to the agencies and stakeholders.

- The DFO representative on the FBC must make a greater effort to provide DFO staff with written and/or verbal updates of his/her activities within the FBC as well as those of the Council itself.

- Those DFO staff that have received written progress reports from the FBC should make an effort to distribute these reports to other DFO staff that may not have received them.

- The FBC should make a greater effort to promote their participation with successful activities (i.e. past facilitation initiatives) to build confidence so more DFO staff will initiate contact.

- FBC staff acting as facilitators should be adequately trained if this role is to be continued.

- If the FBC is to continue its international work to further their understanding of sustainability, the results of this work must be communicated effectively to the Council and those within the Fraser Basin that could gain from this knowledge.

- FBC should continue to publish the Report Cards on the state of the Fraser Basin as respondents indicated they were a very valuable tool in raising public awareness. The Report Cards should be based on science, with potential technical solutions, and widely distributed.

- DFO and the FBC staff should work together on areas of mutual interest such as watershed fish-sustainability planning (WFSP) and HCSP.

The following FBC activities were effective in supporting the delivery of the Habitat Policy and should be continued:

- Watershed Health Overviews
- Fraser Basin Report Cards
- Steering Committees on water quality
- Supporting the formation and maintenance of local stewardship groups

The following list of specific activities complement the FBC's Charter for Sustainability and support the protection of fish habitat. The FBC should become more involved with the following:

- LRMPs and other land use planning activities
- Watershed stewardship and watershed management planning
- Urban development and ski hill expansion on the Sea to Sky corridor
- Water Use Planning (BC Hydro, MoELP, DFO)(Wahleach Facility, Bridge/Seton)
- Monitoring and reporting to ensure local government Official Community Plans (OCPs) and provincial/federal land use decisions are environmentally sustainable.

6.0 Acknowledgements

We would like to thank all of the DFO questionnaire respondents for taking the time to complete the questionnaire. Direction to initiate and pursue this evaluation was provided by the Habitat Council and the former Regional Director of the Habitat Enhancement Branch. Special thanks to Otto Langer for contributions at the study design stage and Gabrielle Kosmider for data entry and data compilation. An earlier version of this manuscript was improved by comments from Melody Farrell, Greg Mallette, and Nicholas Winfield.

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Appendix 1

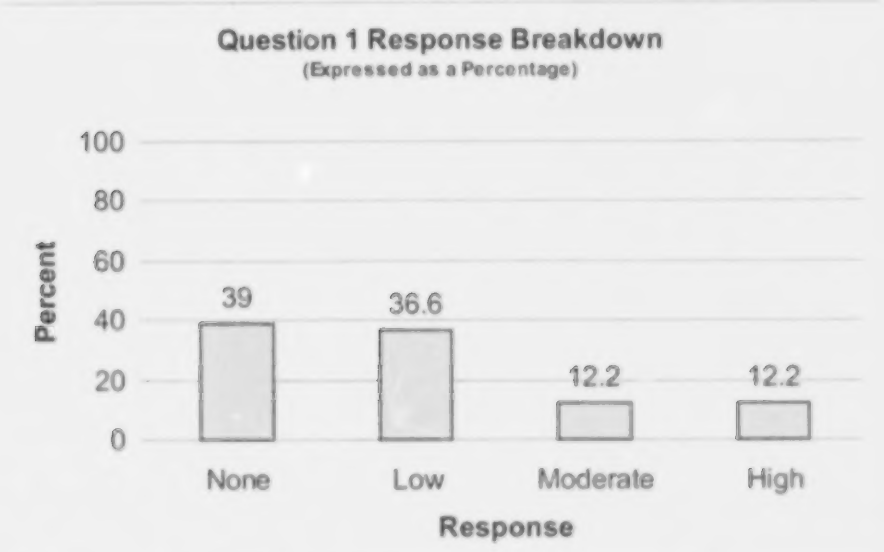
3.30 Chapter Two Results: General Involvement with the FBC

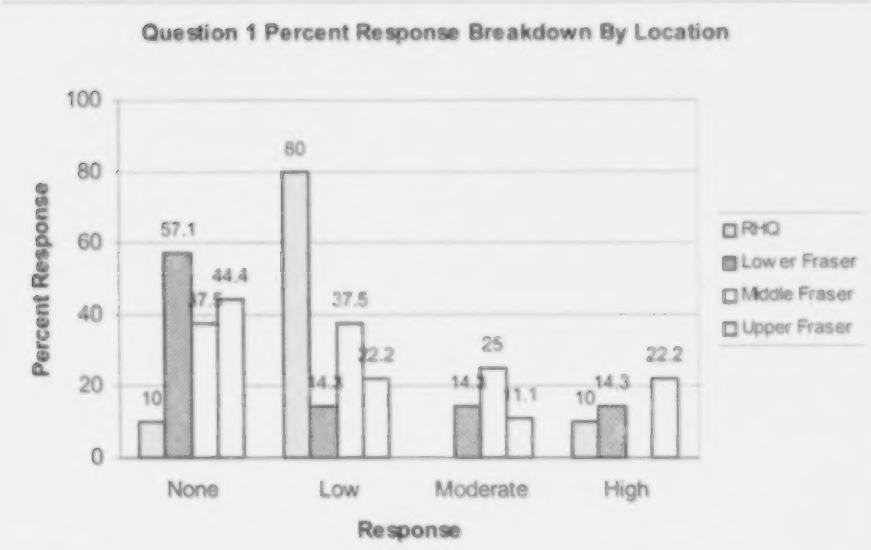
Individual Question Summaries:

1. **How would you rate the frequency of your interaction with the FBC? [Low (1-2 times/yr.); Moderate (3-5 times/yr.); High (6+ times/yr.)]**

Number of Respondents: 41

Results:

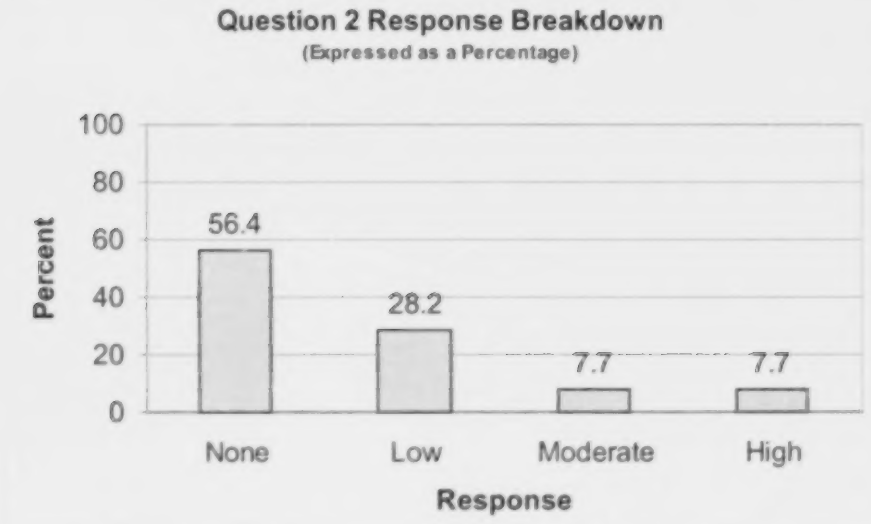


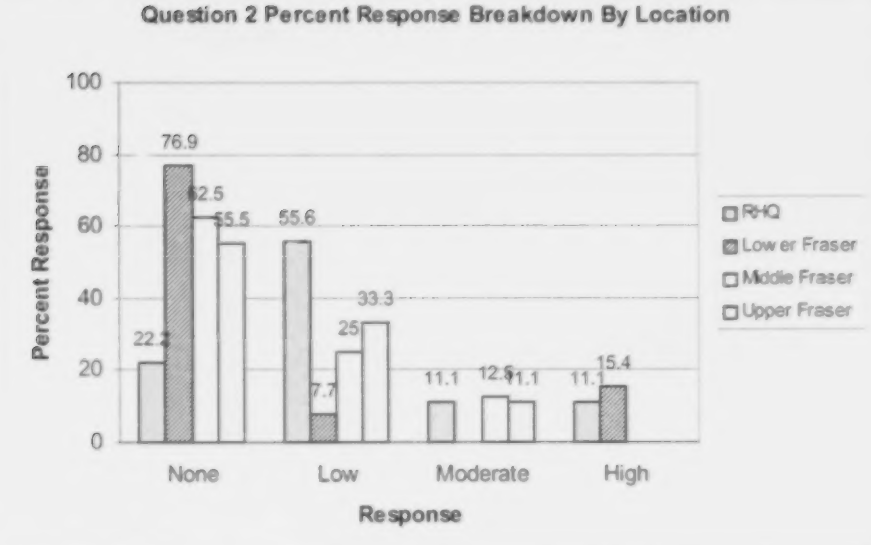


2. **Of the interaction discussed in question 1, indicate the frequency of the FBC initiating contact with the DFO (either directly or indirectly, via another DFO staff member).**
   [Low (1-2 times/yr.); Moderate (3-5 times/yr.); High (6+ times/yr.)]

Number of Respondents: 39

Results:

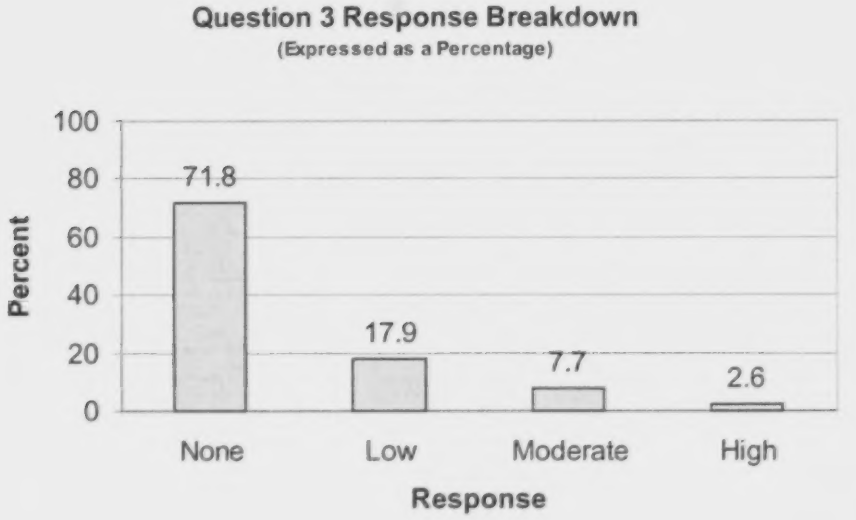


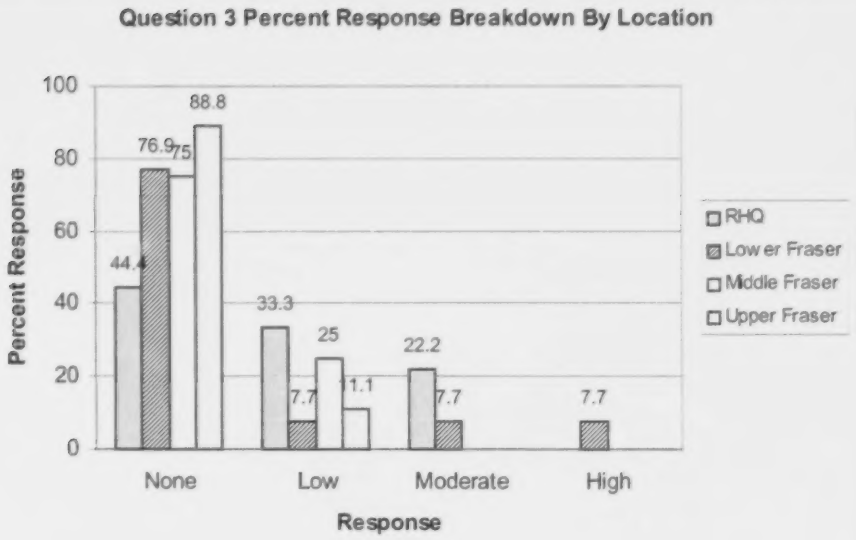


3. **Of the interaction discussed in question 1, indicate the frequency of the DFO initiating contact with the FBC.**
   [Low (1-2 times/yr.); Moderate (3-5 times/yr.); High (6+ times/yr.)]

Number of Respondents: 39

Results:

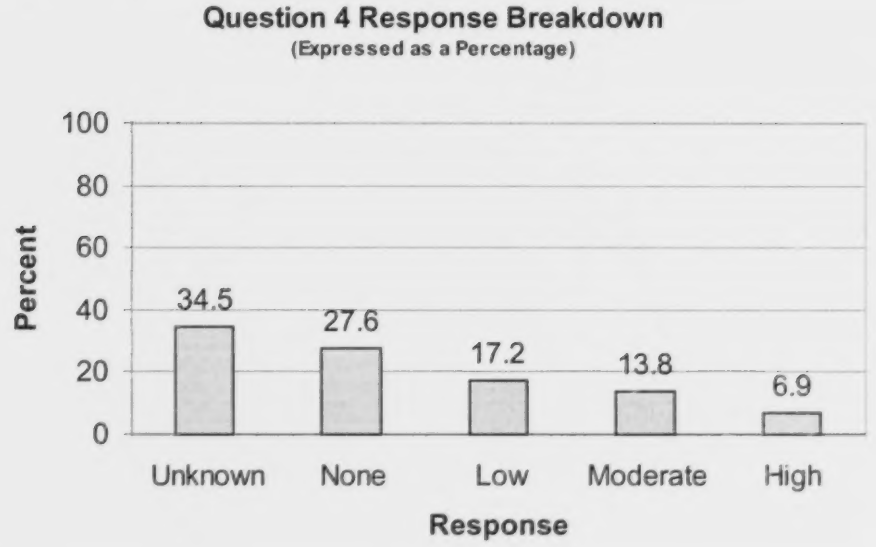


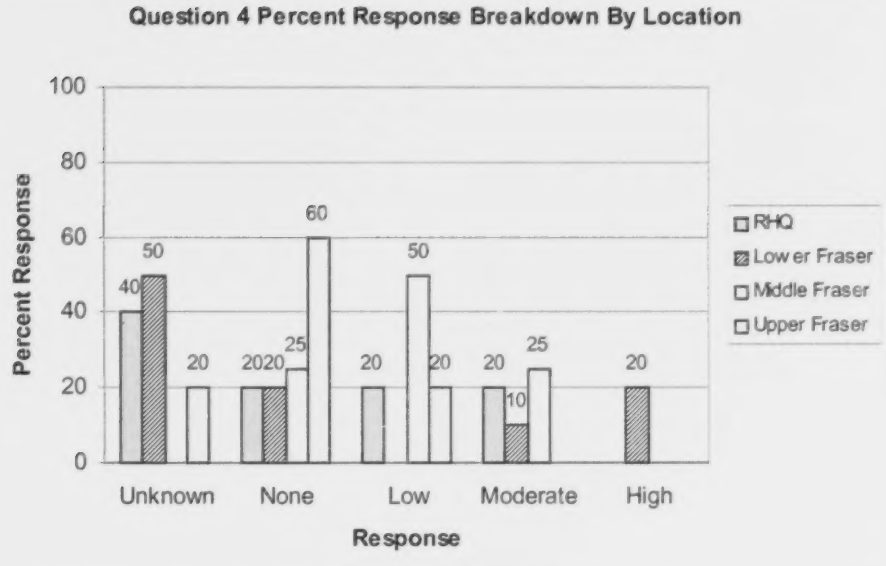


4. Indicate the influence of your interaction with the FBC on improving the implementation of DFO's Habitat Policy.

Number of Respondents: 29

Results:

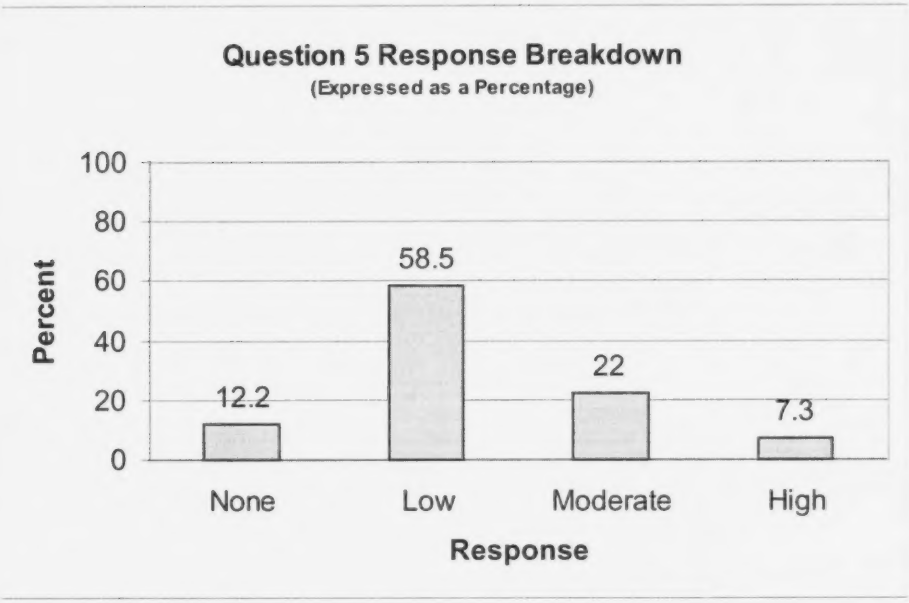


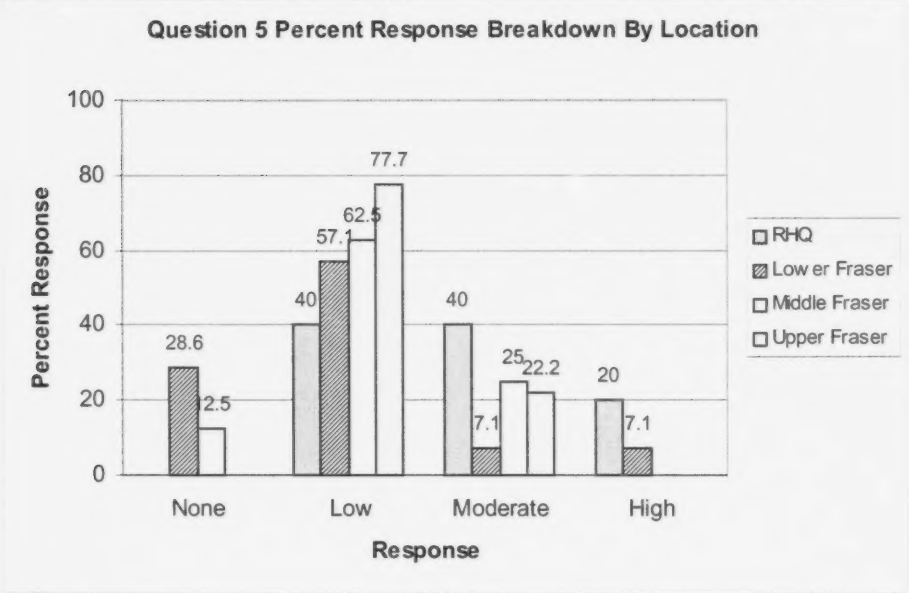


5. How would you rate your knowledge of the mandate of the FBC?

Number of Respondents: 41

Results:

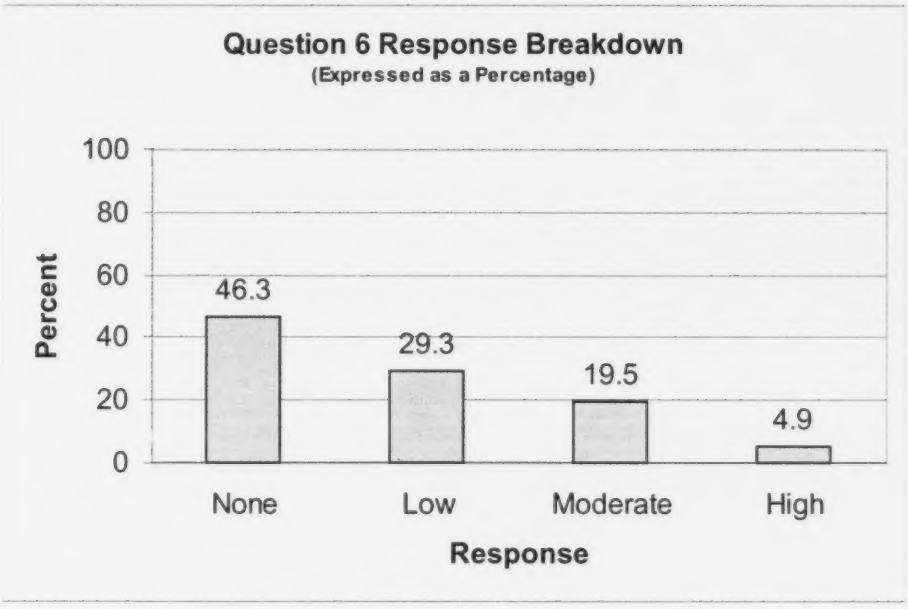


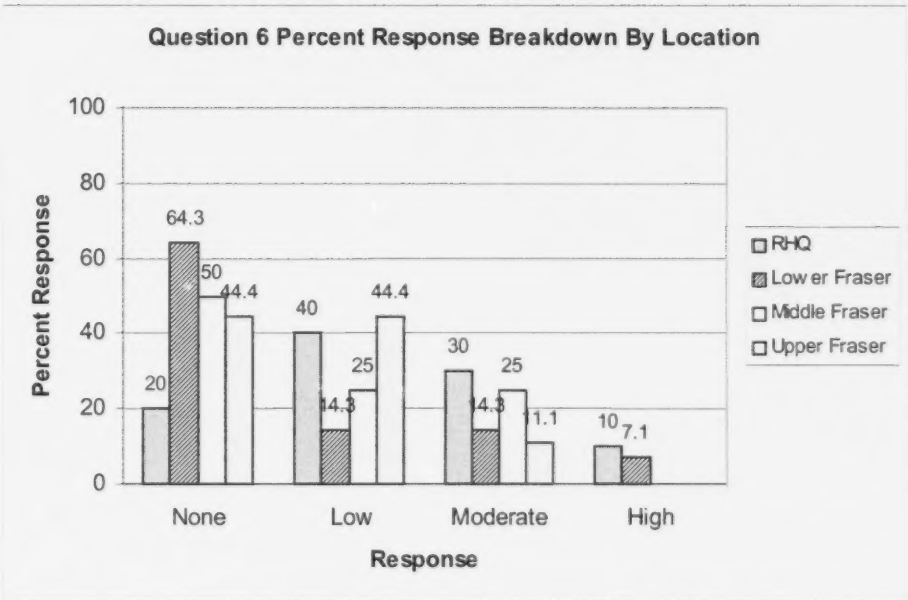


6. How would you rate your knowledge of the FBC's *Charter for Sustainability*?

Number of Respondents: 41

Results:

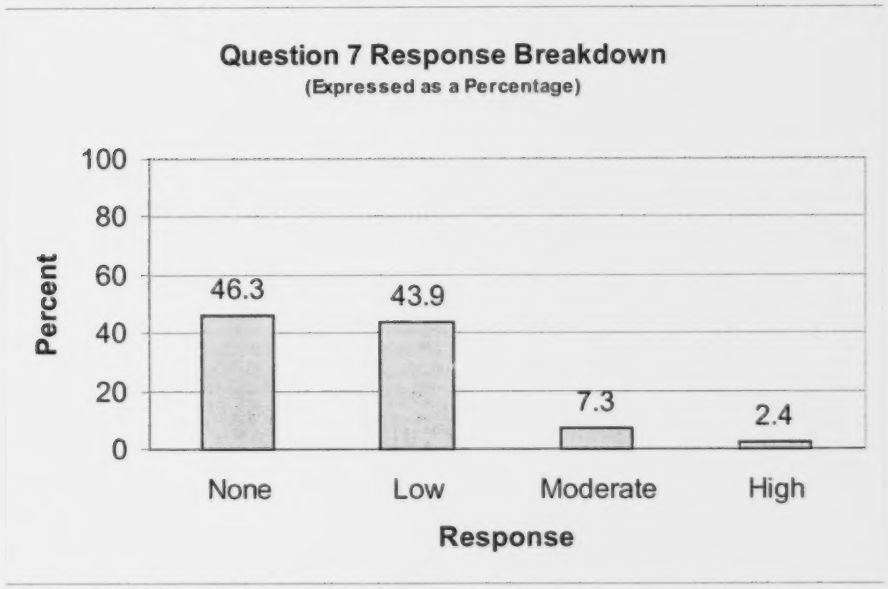


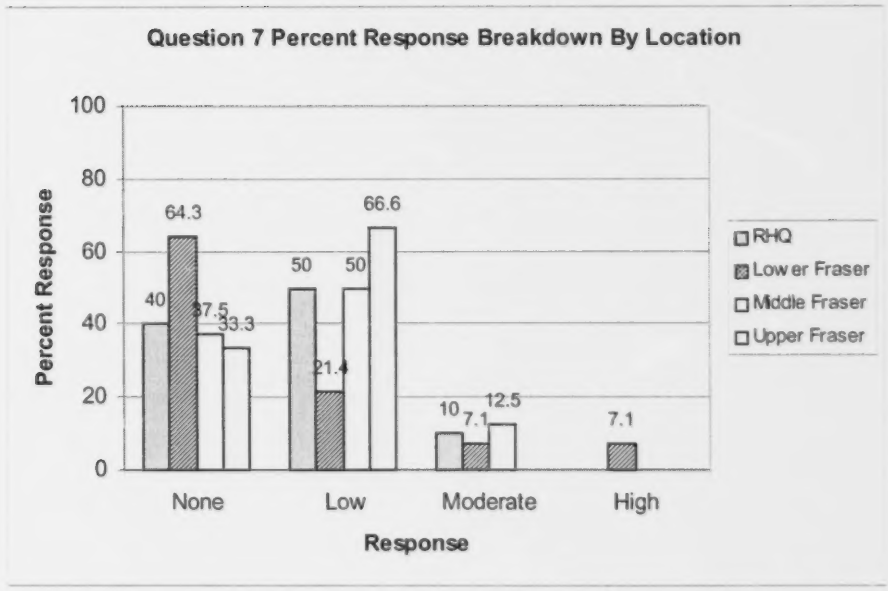


7. How would you rate your knowledge of the FBC's activities to advance and monitor the directions of the *Charter for Sustainability* with respect to fish and fish habitat?

Number of Respondents: 41

Results:

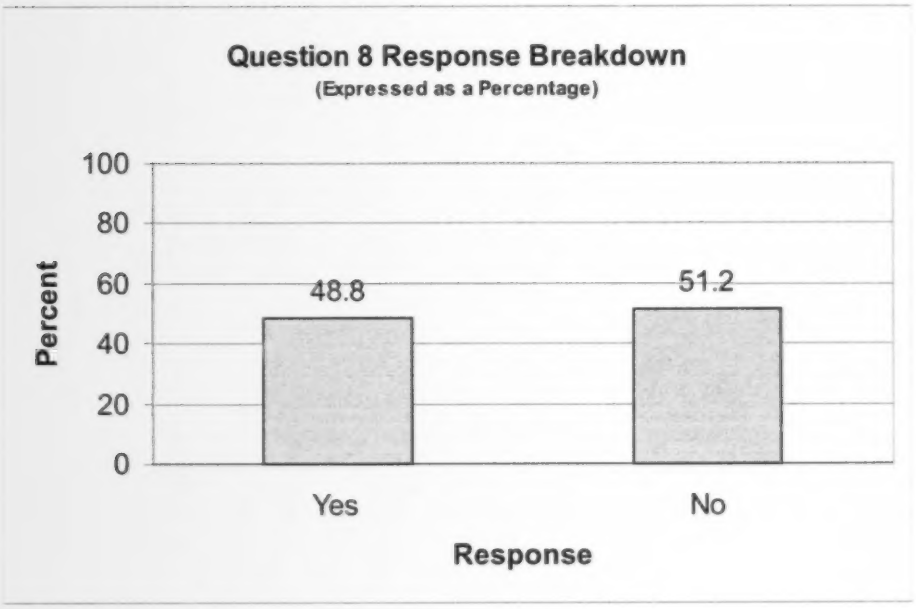


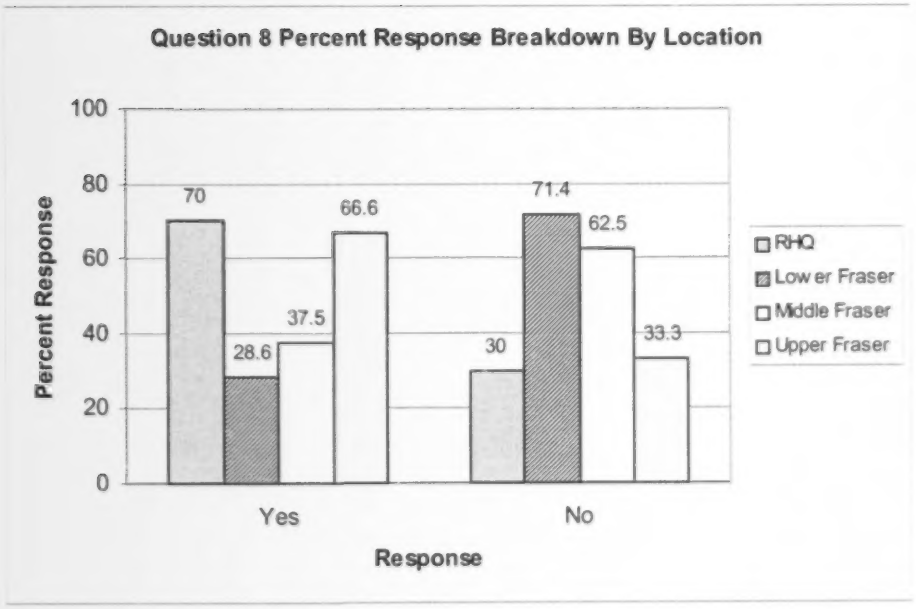


8. Are you aware that DFO has a representative on the FBC?

Number of Respondents: 41

Results:

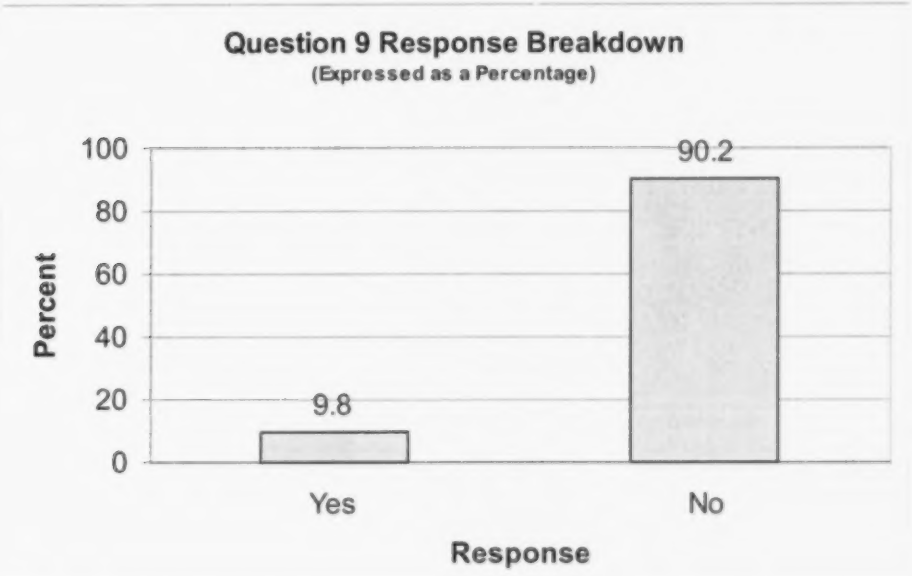


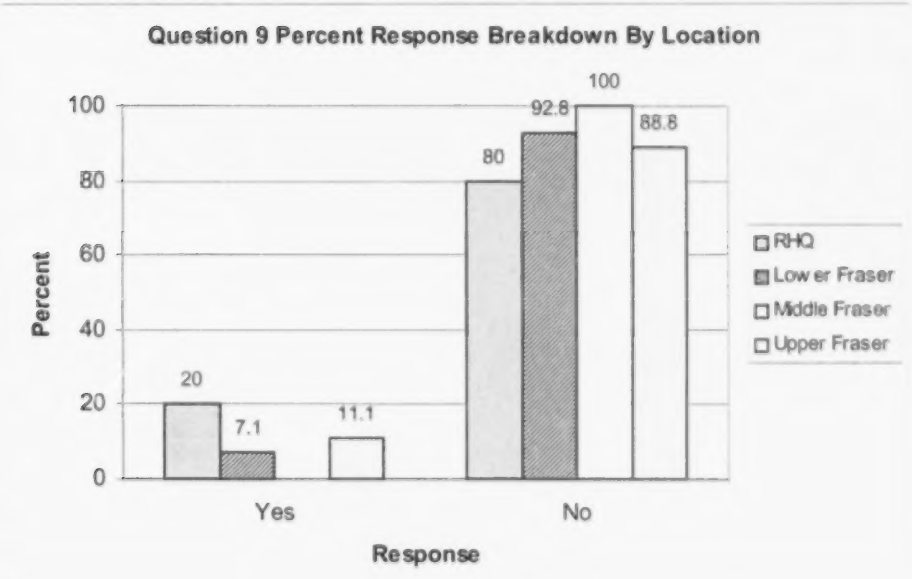


9. Are you aware who DFO's representative on the FBC is?

Number of Respondents: 41

Results:

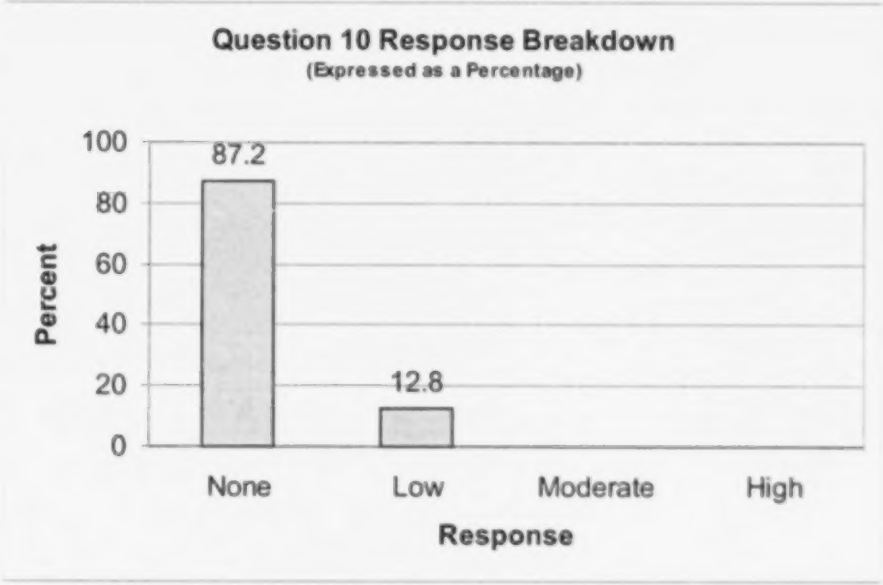


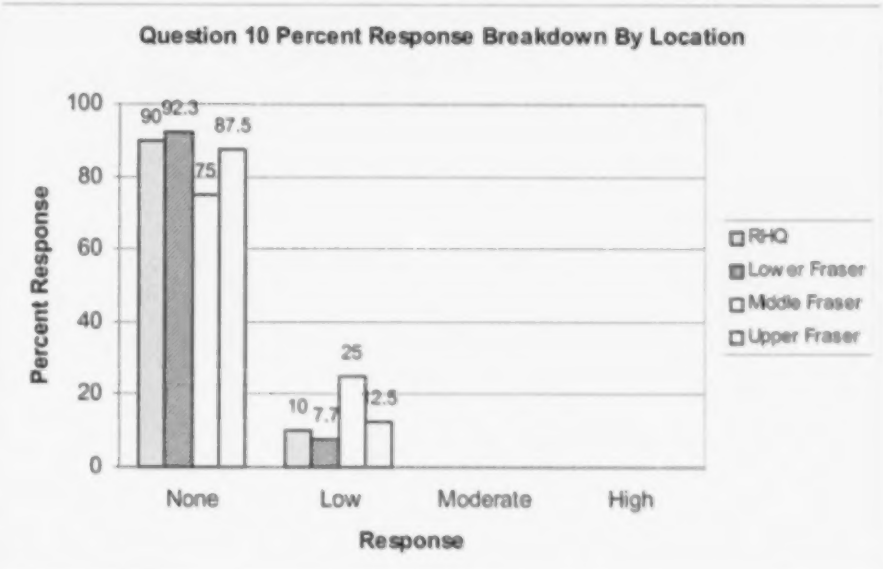


10. Indicate the frequency of verbal or written progress updates from the DFO representative, on the FBC's activities, relating to fish and fish habitat. [Low (1-2 times/yr.); Moderate (3-5 times/yr.); High (6+ times/yr.)]

Number of Respondents: 39

Results:

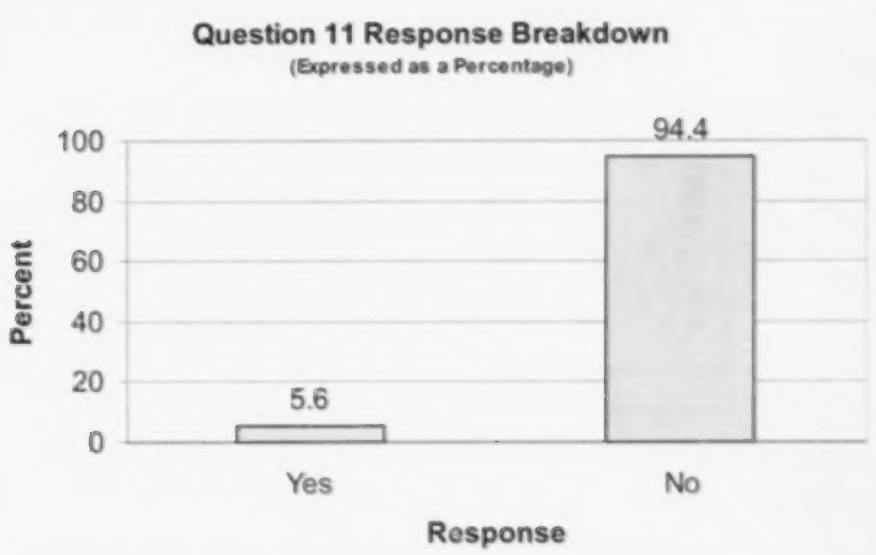


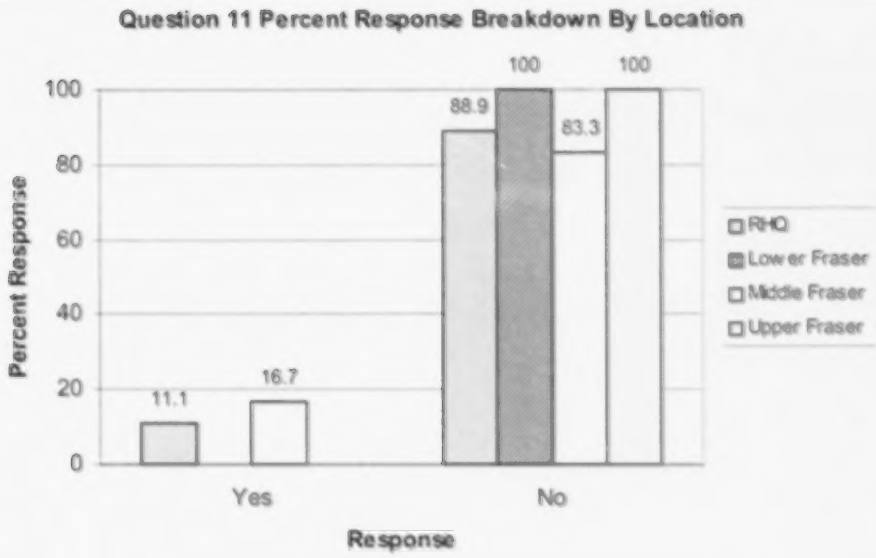


11. Do you read the written progress updates from the DFO representative, on the FBC's activities, relating to fish and fish habitat?

Number of Respondents: 36

Results:

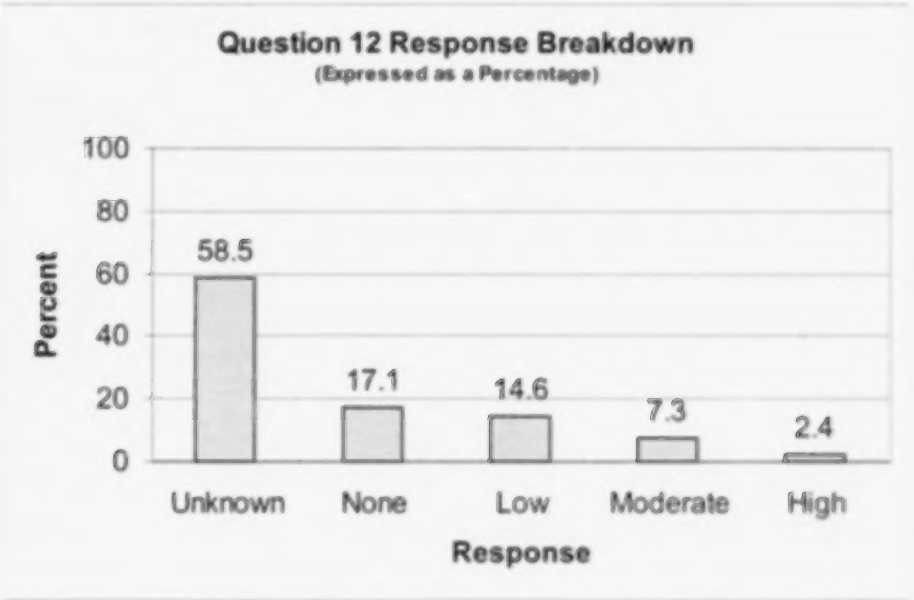


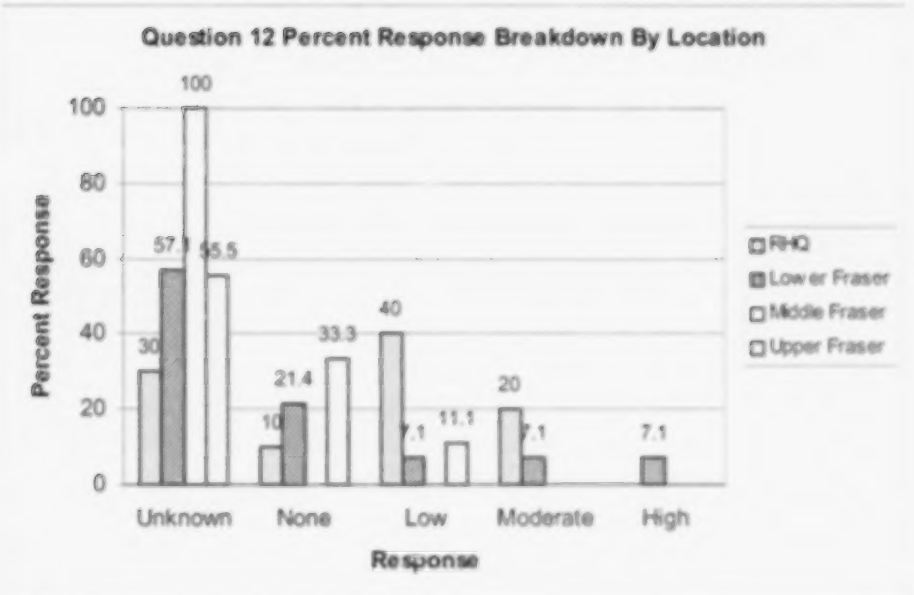


12. Overall, indicate the influence of the FBC on improving implementation of DFO's Habitat Policy.

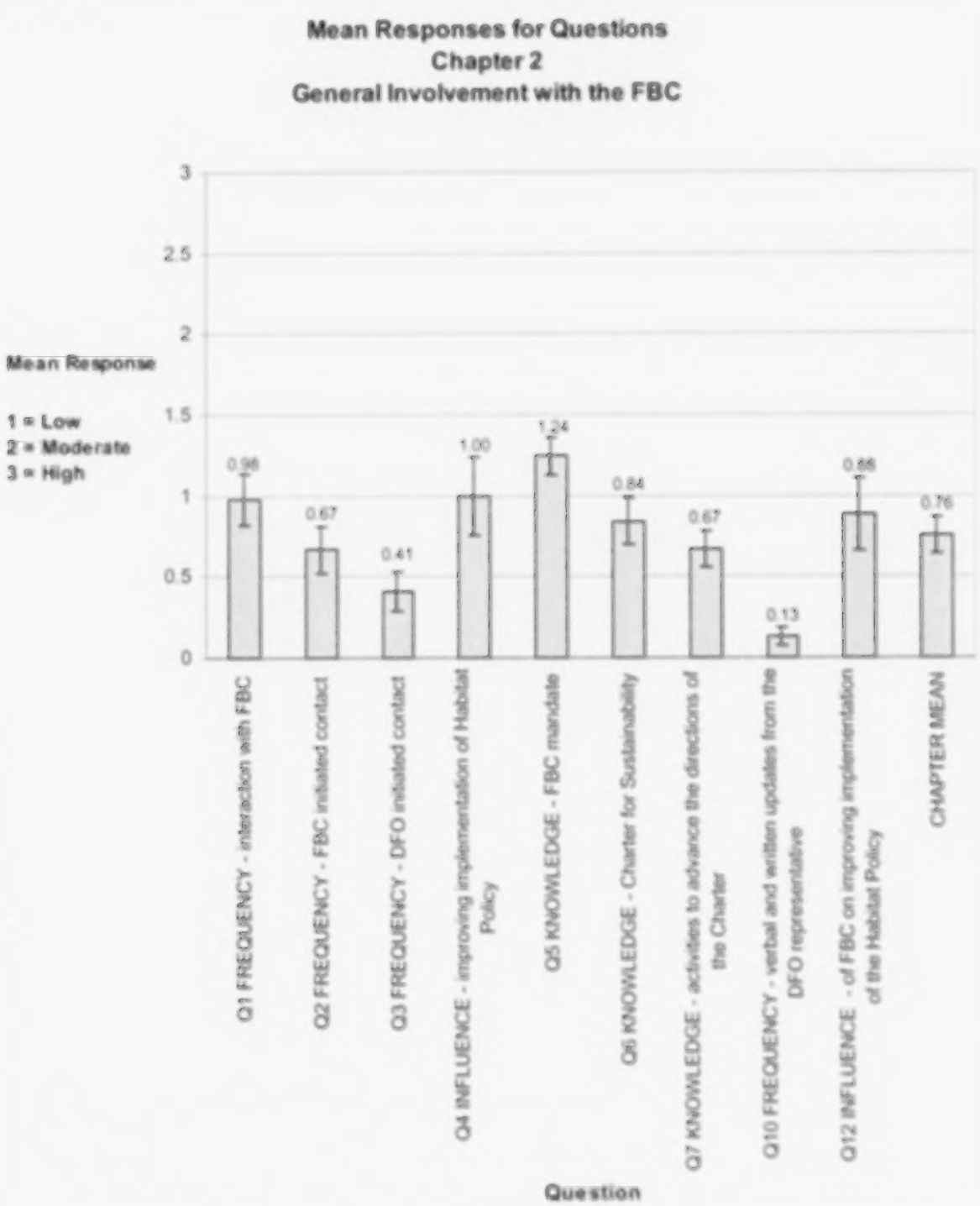
Number of Respondents: 41

Results:





3.31 Chapter Summary:



Appendix 2

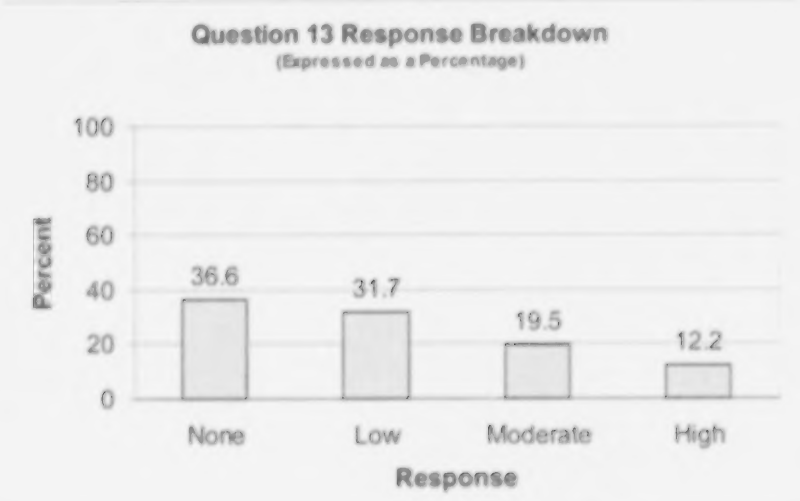
3.40 Chapter Three Results: Charter for Sustainability

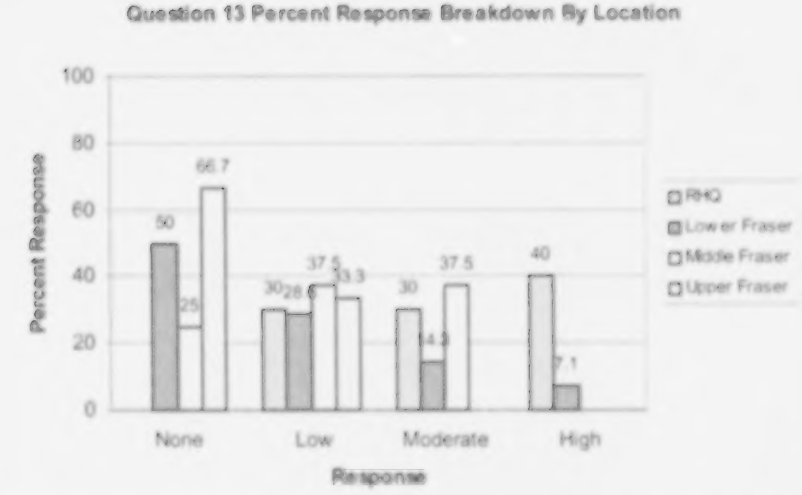
Individual Question Summaries:

13. How would you rate your knowledge of the progress reports (report cards) released by the Fraser Basin Management Board (predecessor to the FBC) that strive to document the progress made towards sustainability in the Fraser River Basin?

Number of Respondents: 41

Results:

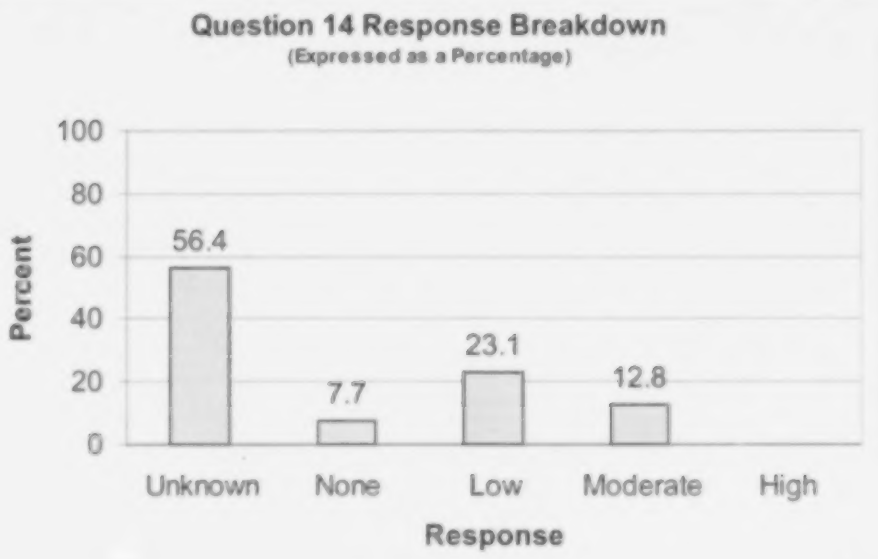


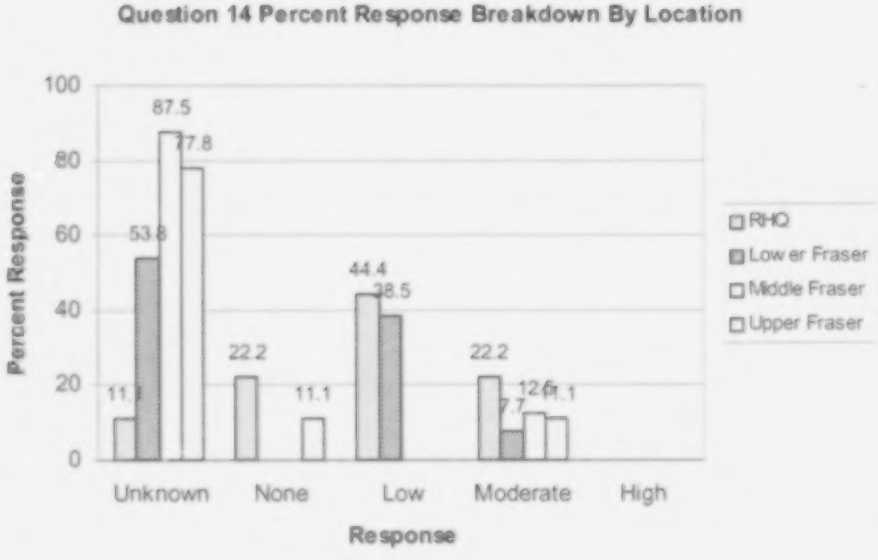


14. How would you rate the effect of the progress reports on raising the level of awareness of fish and fish habitat?

Number of Respondents: 39

Results:

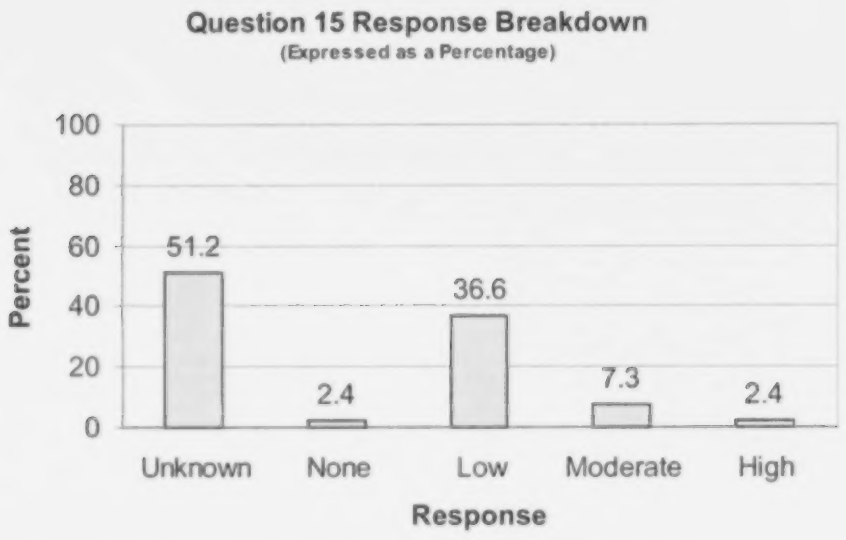


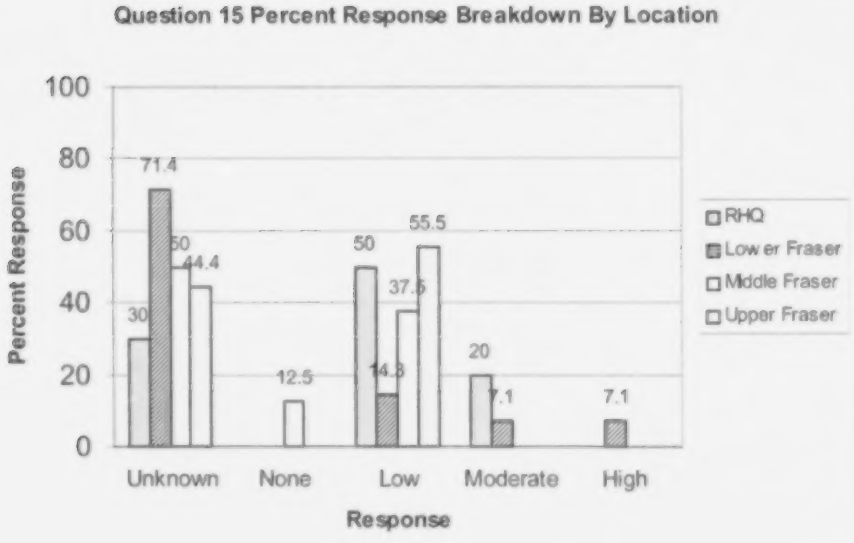


15. Indicate the number of times the FBC was involved in activities that encourage awareness of, and actions for, environmental sustainability (with respect to fish and fish habitat).

Number of Respondents: 41

Results:

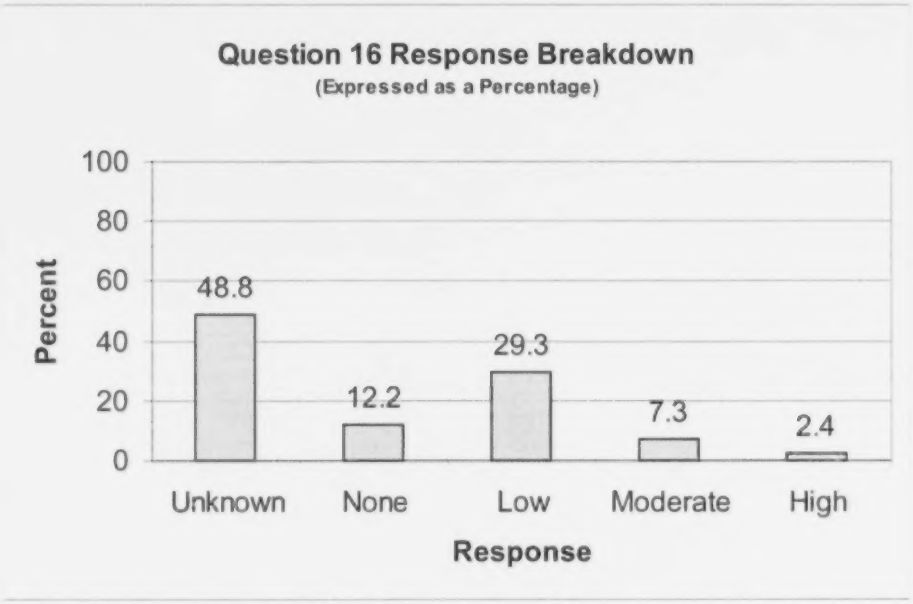


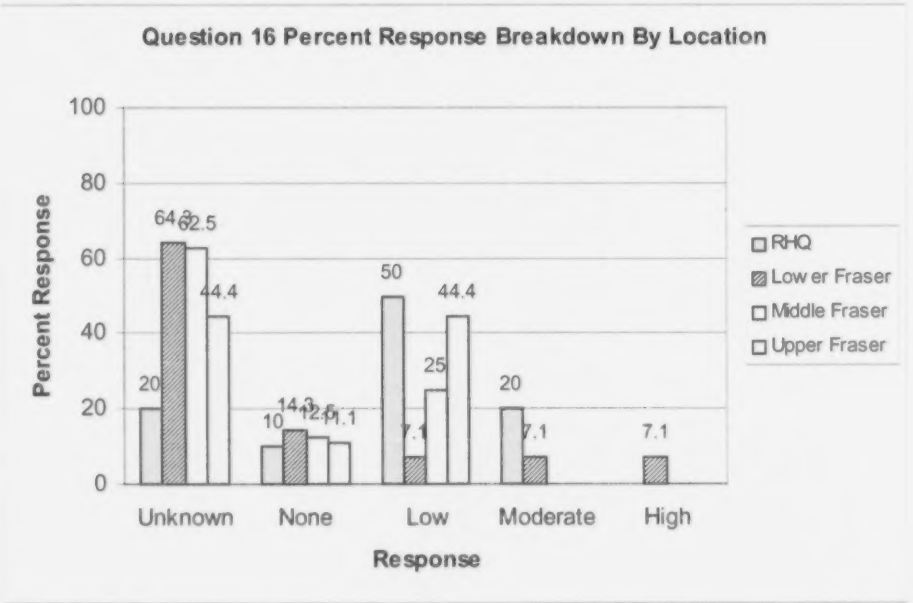


16. How would you rate the effectiveness of the FBC in encouraging awareness of and actions for environmental sustainability (with respect to fish and fish habitat)?

Number of Respondents: 41

Results:

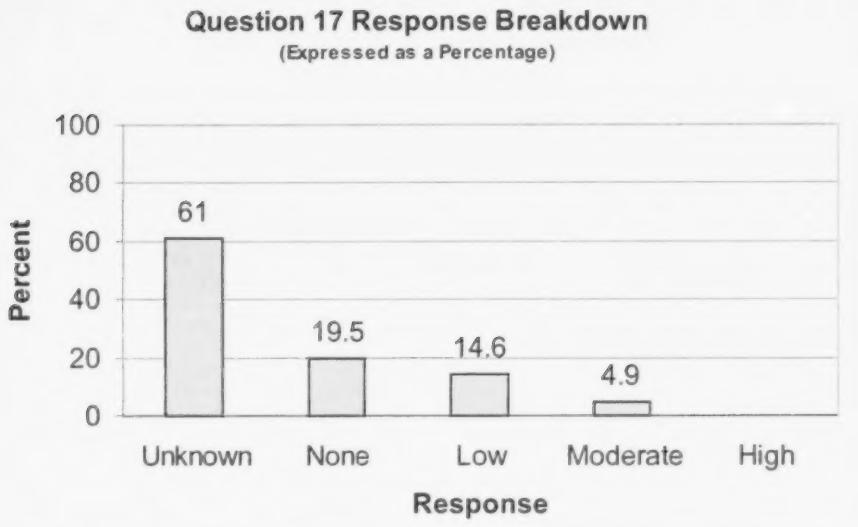


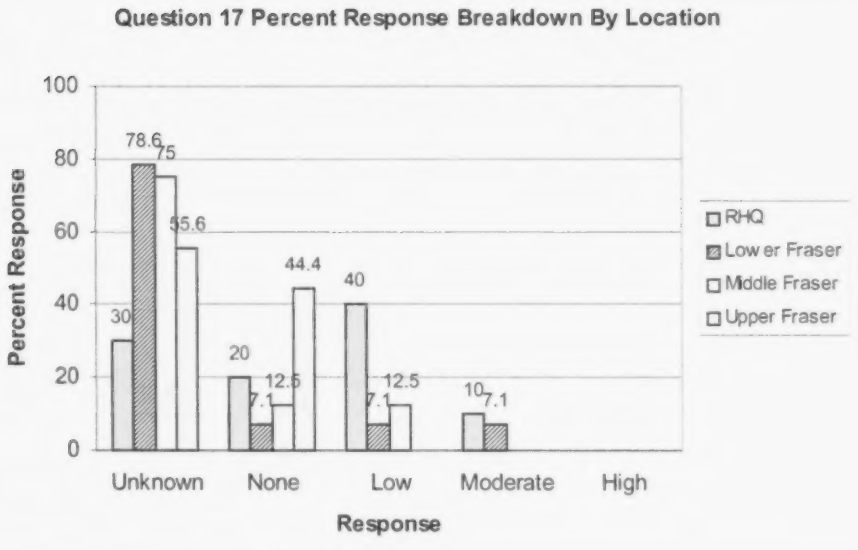


17. The FBC strives to encourage awareness of and actions for environmental sustainability. How would you rate the influence of the FBC in this activity upon DFO's Habitat Policy?

Number of Respondents: 41

Results:

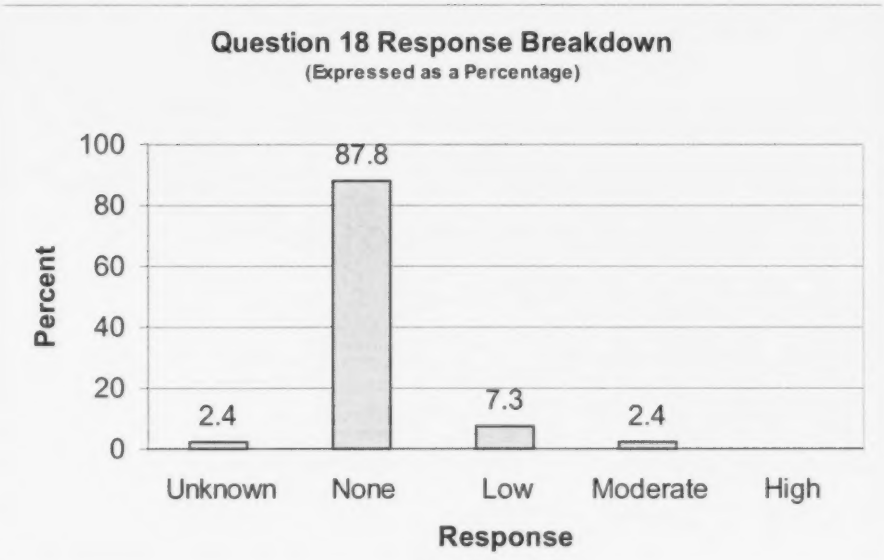


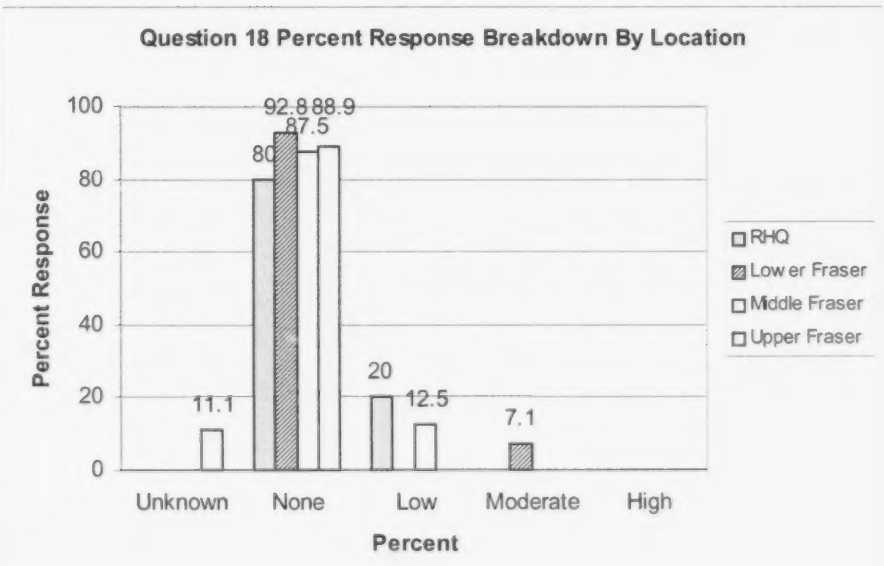


18. The FBC is involved with international work to improve their understanding of sustainability. How would you rate your knowledge of the time spent by the FBC in international work?

Number of Respondents: 41

Results:

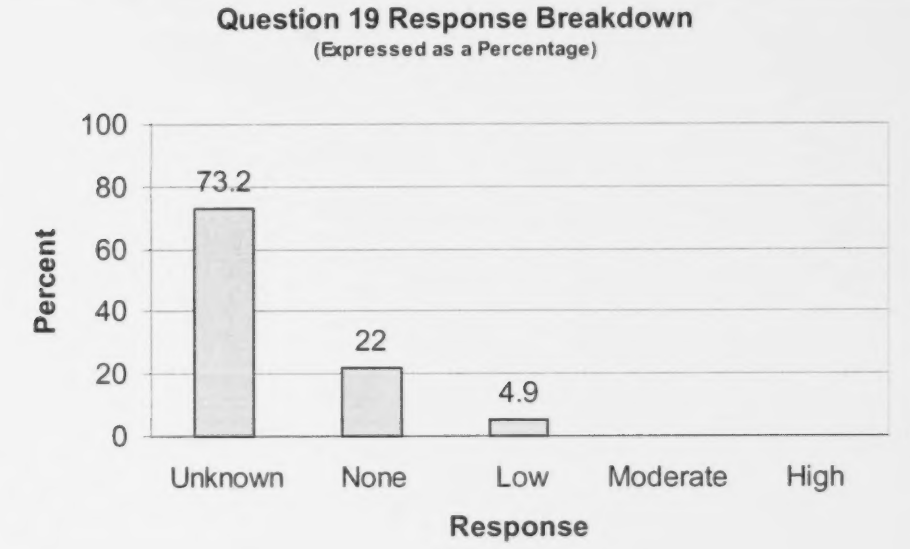


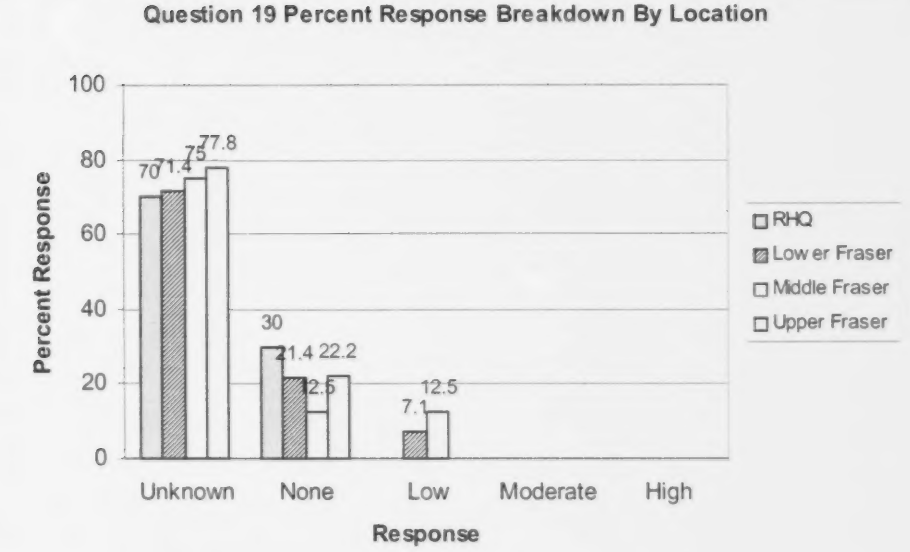


19. How would you rate the applicability of the FBC's international work to supporting the Habitat Policy for fish and fish habitat of the Fraser Basin?

Number of Respondents: 41

Results:

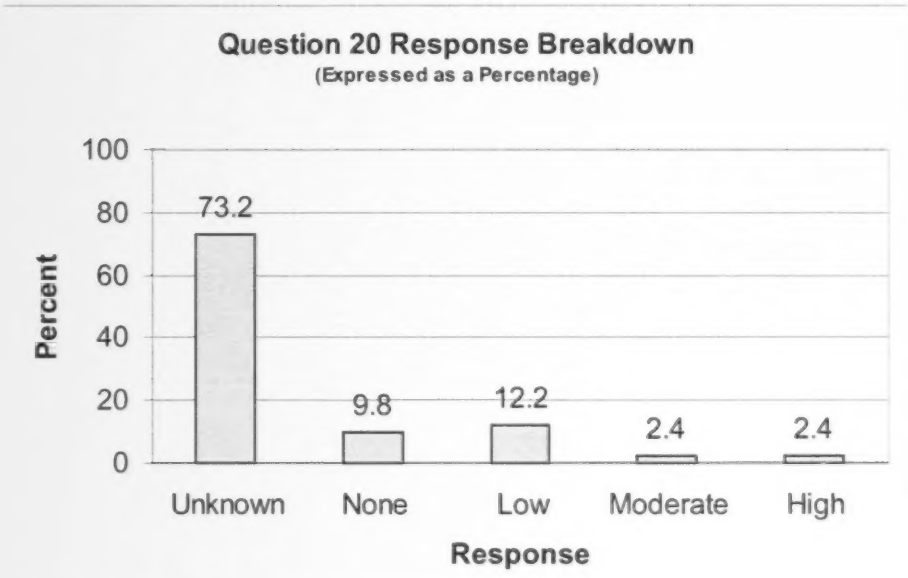


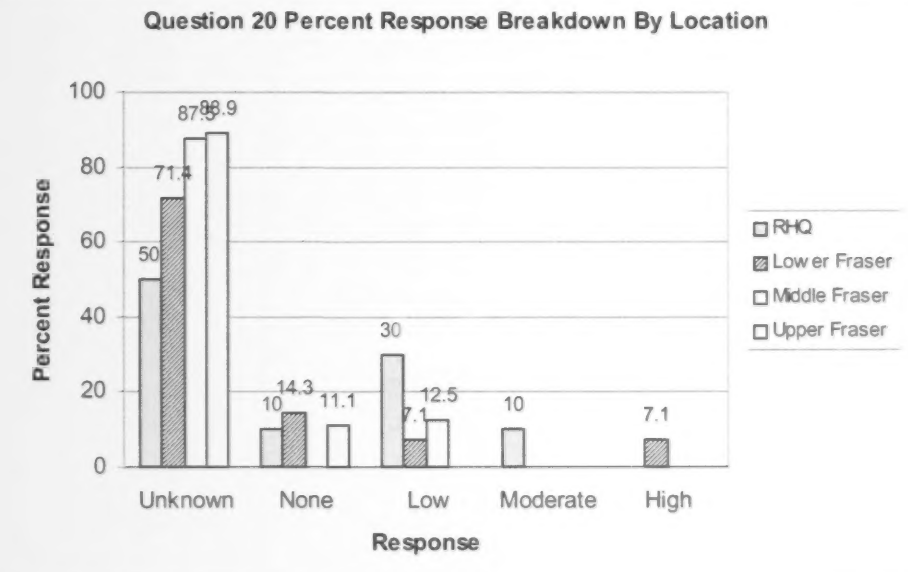


20. Indicate the frequency of DFO's efforts to request support from the FBC, on public awareness and education initiatives.

Number of Respondents: 41

Results:

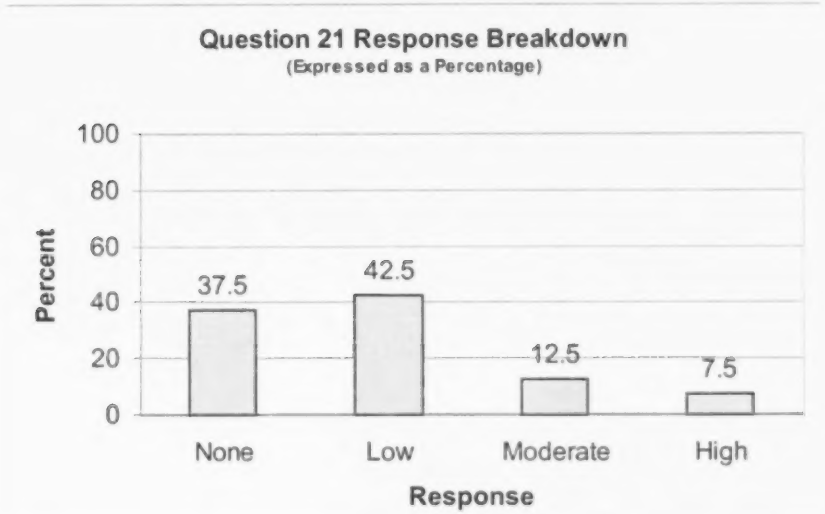


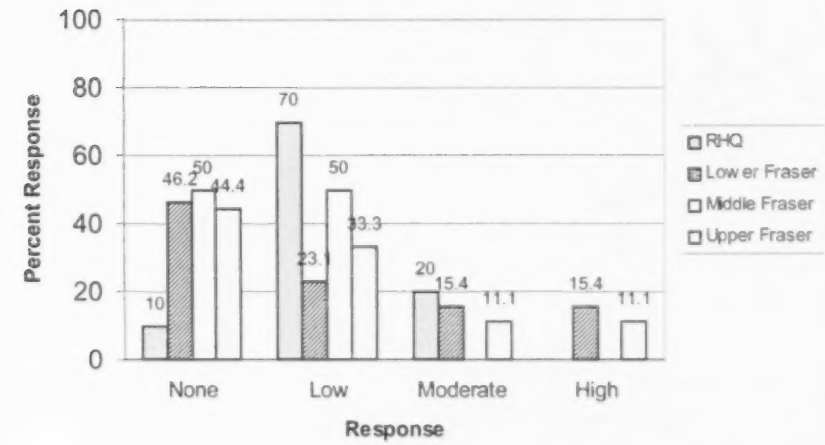


21. The FBC strives to work on specific local initiatives in order to show evidence of concrete actions and measurable results (e.g. chairing multi-stakeholder groups). Indicate the frequency of the FBC working on specific local initiatives in order to show evidence of concrete actions and measurable results (with respect to fish and fish habitat).
[Low (1-2 times/yr.); Moderate (3-5 times/yr.); High (6+ times/yr.)]

Number of Respondents: 40

Results:

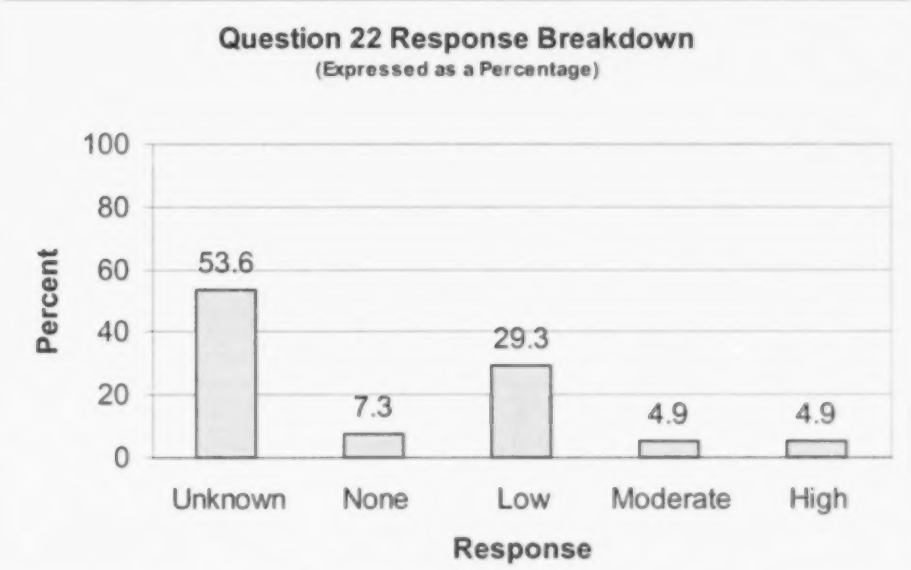


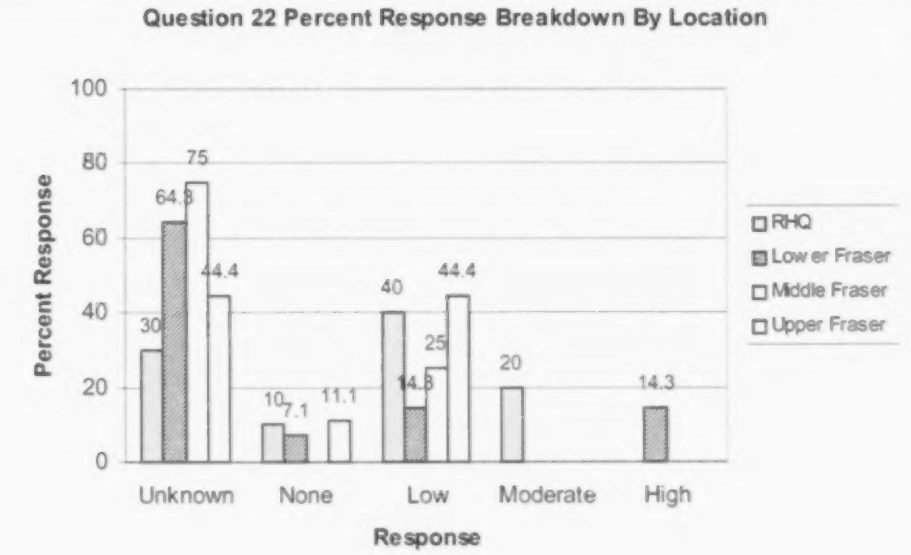


22. The FBC strives to work on specific local initiatives in order to show evidence of concrete actions and measurable results. How would you rate the effectiveness of the FBC in this activity (with respect to fish and fish habitat)?

Number of Respondents: 41

Results:

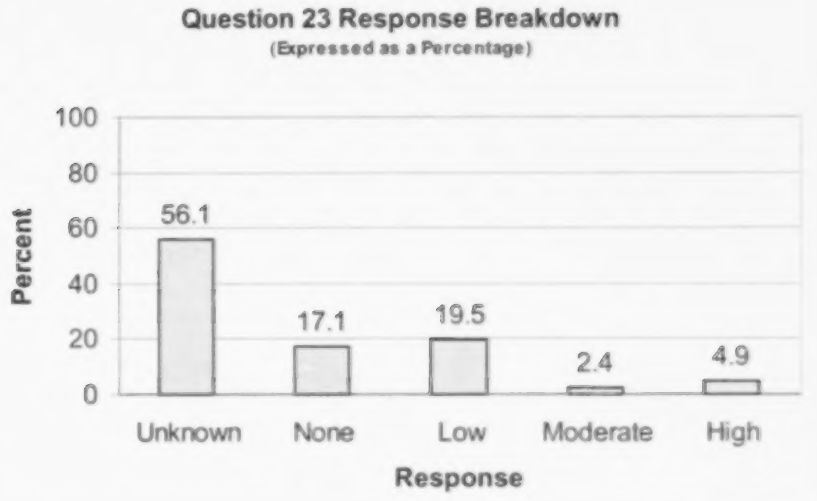


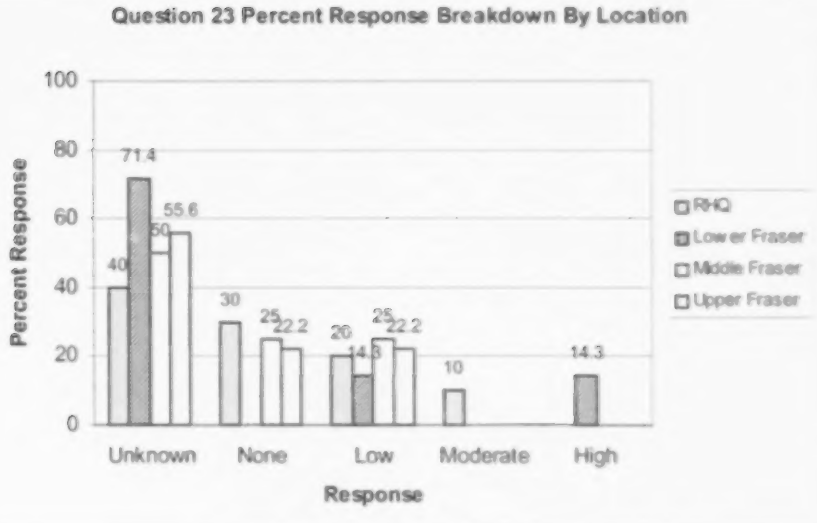


23. The FBC strives to work on specific local initiatives in order to show evidence of concrete actions and measurable results. Indicate the influence of this FBC activity on the delivery of the Habitat Protection and Habitat Improvement Strategies of the Habitat Policy.

Number of Respondents: 41

Results:

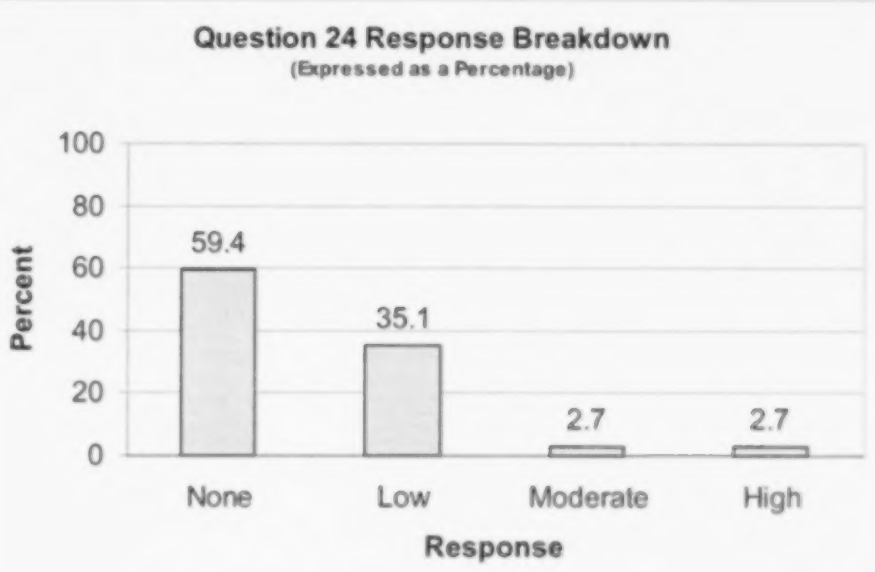


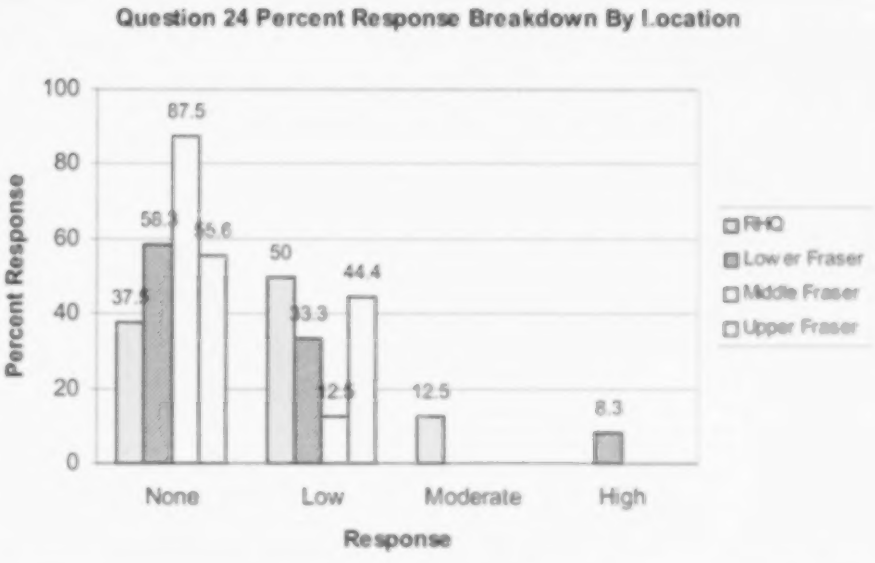


24. Indicate the frequency of involvement of the FBC in facilitating resolution of inter-jurisdictional issues and conflicts (with respect to fish and fish habitat). [Low (1-2 times/yr.); Moderate (3-5 times/yr.); High (6+ times/yr.)]

Number of Respondents: 37

Results:

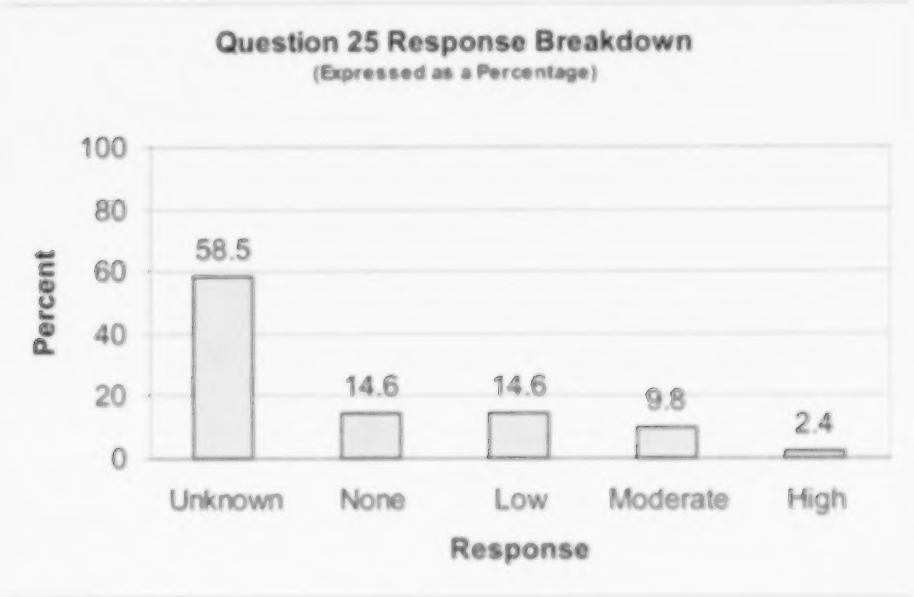


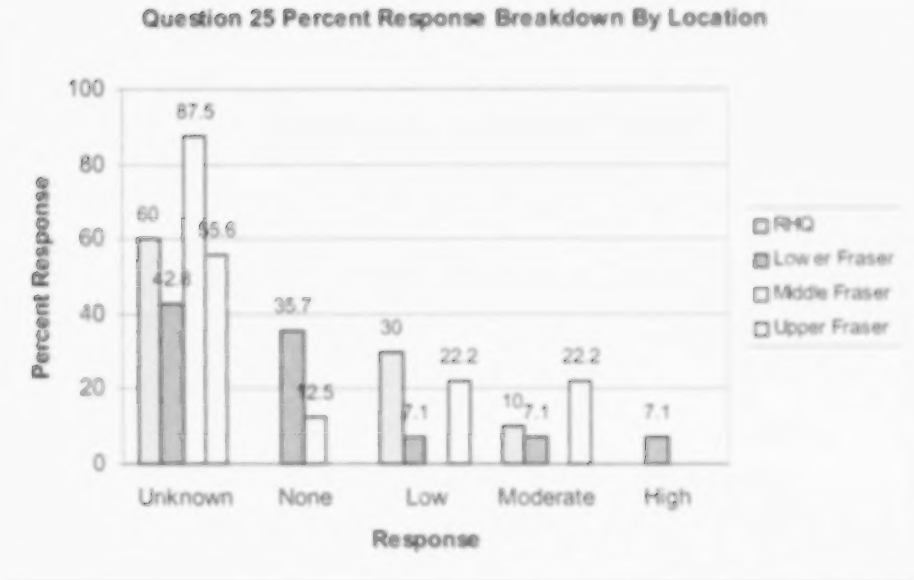


25. How would you rate the effectiveness of the FBC in facilitating resolution of inter-jurisdictional issues and conflicts (with respect to fish and fish habitat)?

Number of Respondents: 41

Results:

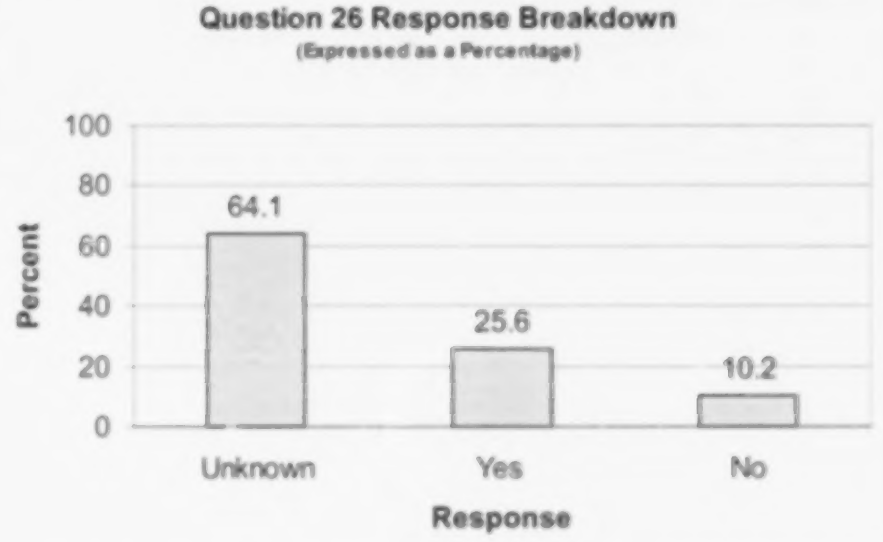


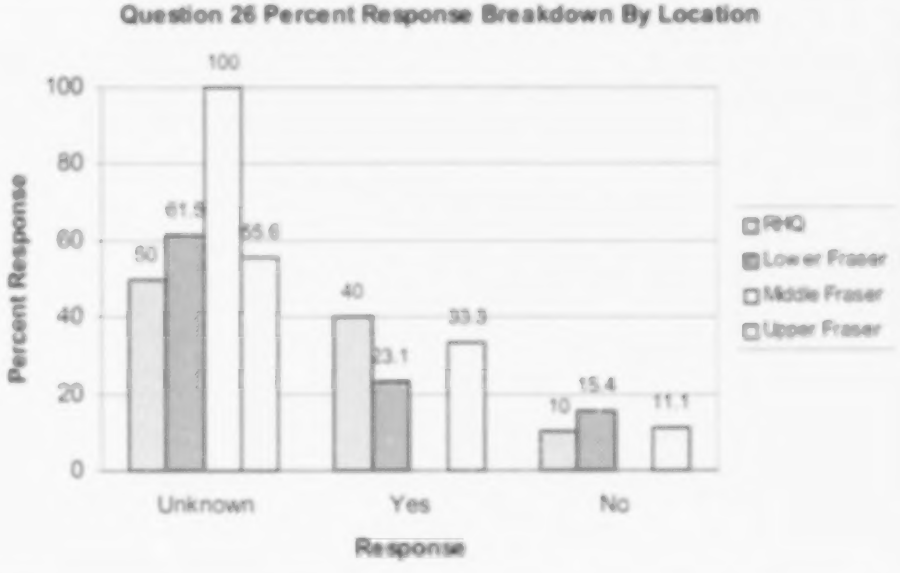


26. Has the FBC remained neutral when involved in facilitating conflict resolution?

Number of Respondents: 39

Results:

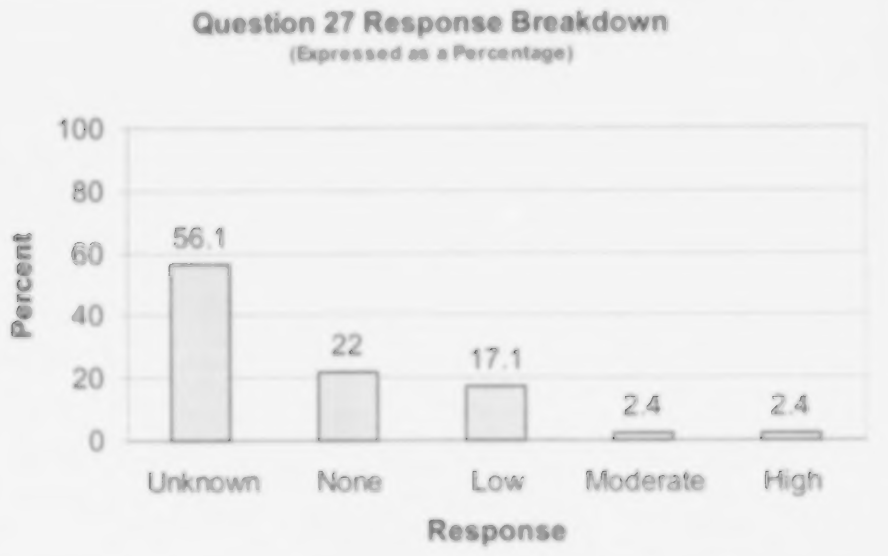


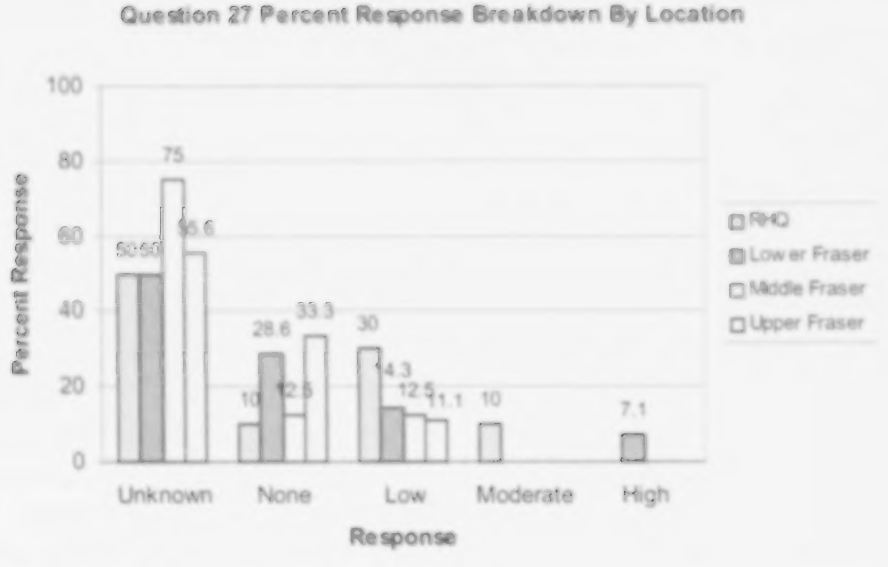


27. **The FBC strives to facilitate resolution of inter-jurisdictional issues and conflicts. Indicate the influence of this activity on improved delivery of the Habitat Policy.**

Number of Respondents: 41

Results:

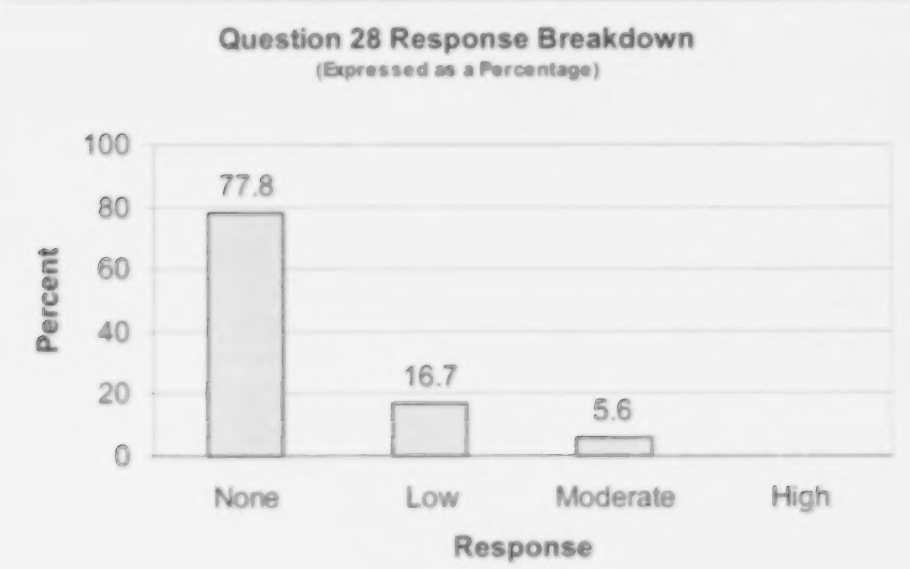


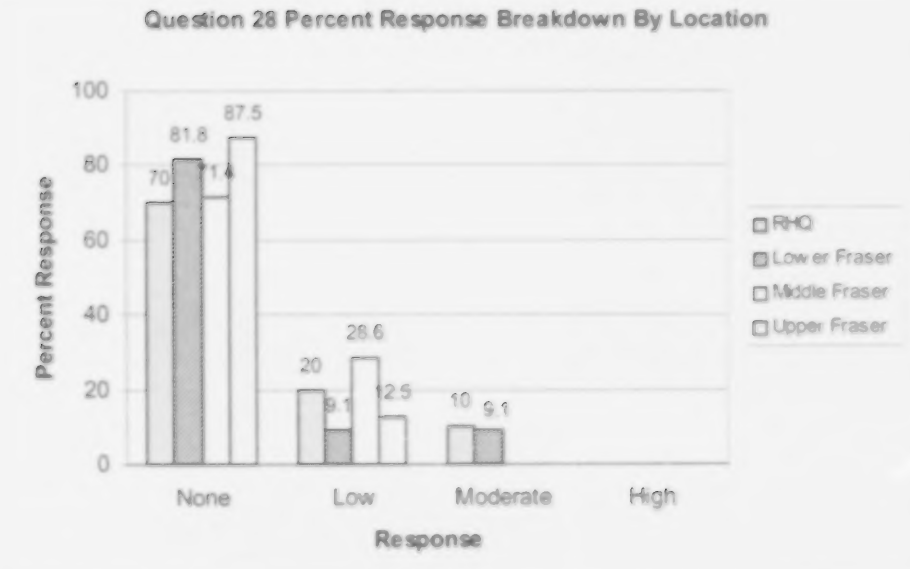


28. Indicate the frequency of DFO's efforts to request support from the FBC on conflict resolution and facilitation initiatives. [Low (1-2 times/yr.); Moderate (3-5 times/yr.); High (6+ times/yr.)]

Number of Respondents: 36

Results:

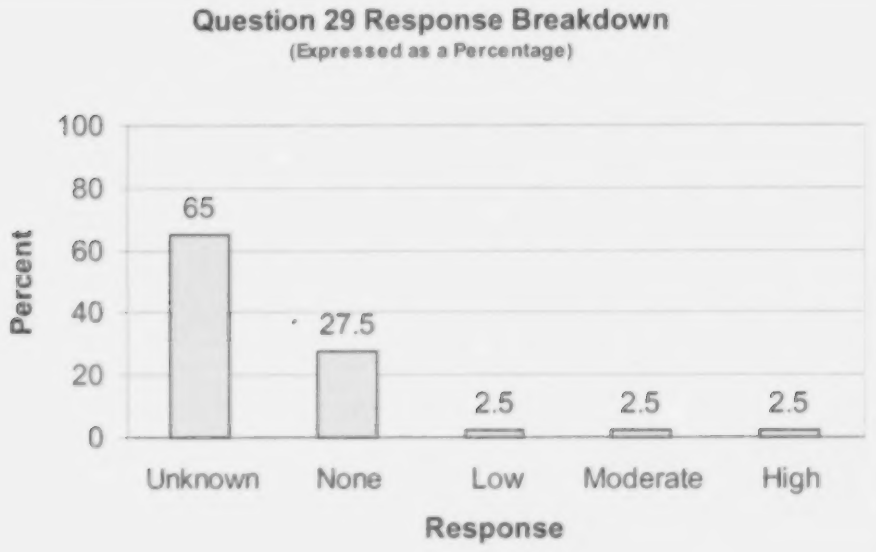


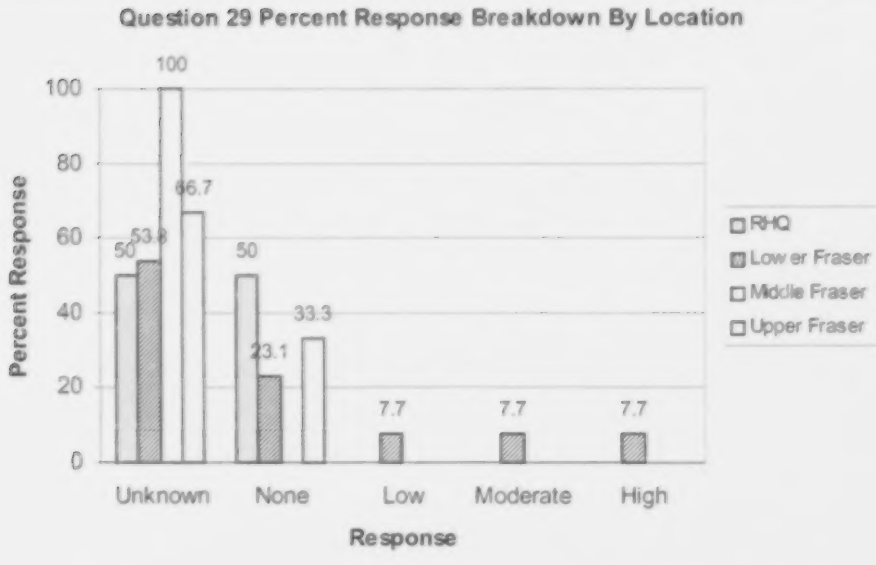


29. How would you rate the effectiveness of the FBC's activities in reducing duplication of existing services and programs (with respect fish and fish habitat)?

Number of Respondents: 40

Results:

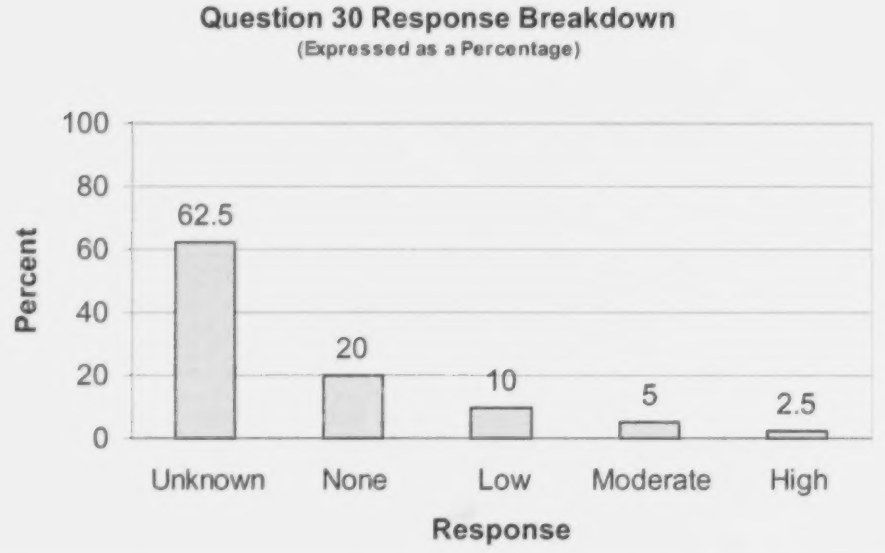


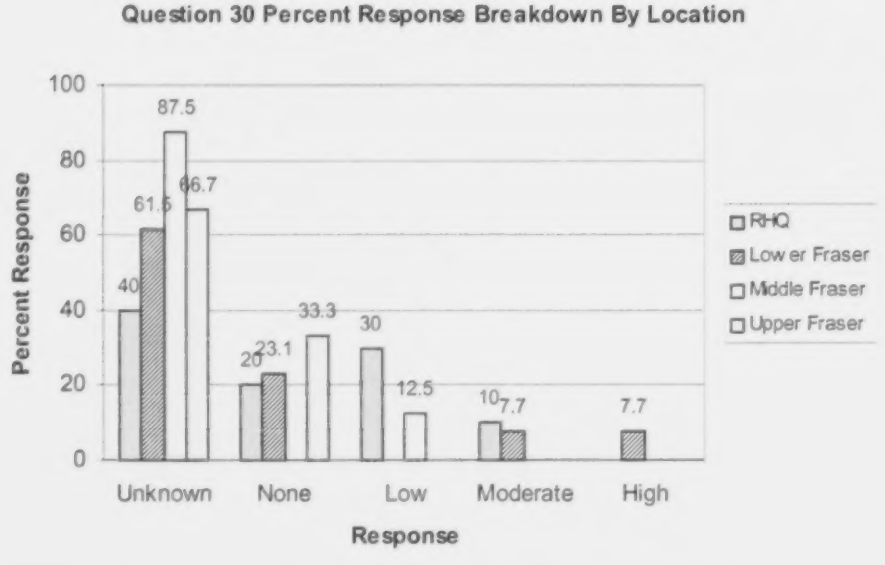


30. How would you rate the effectiveness of the FBC in providing direction to transform decisions into actions (with respect to fish and fish habitat)?

Number of Respondents: 40

Results:

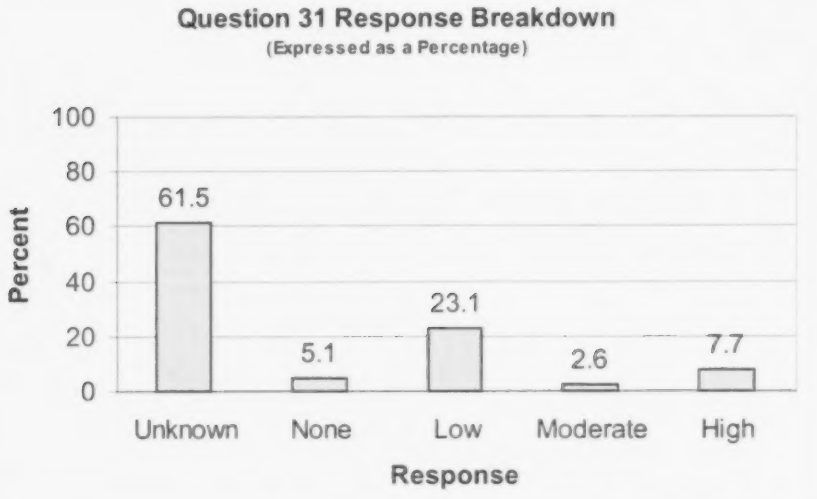


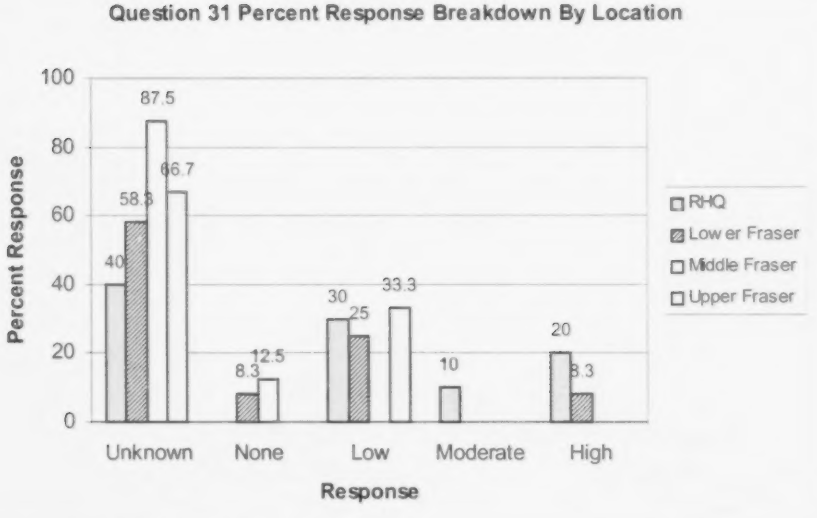


31. Indicate the frequency of the FBC's involvement in facilitating meetings from the initial stages to guiding the process to ultimate solutions (with respect to fish and fish habitat). [Low (1 in last 2 years); Moderate (2 in last 2 years); High (3+ in last 2 years)]

Number of Respondents: 39

Results:

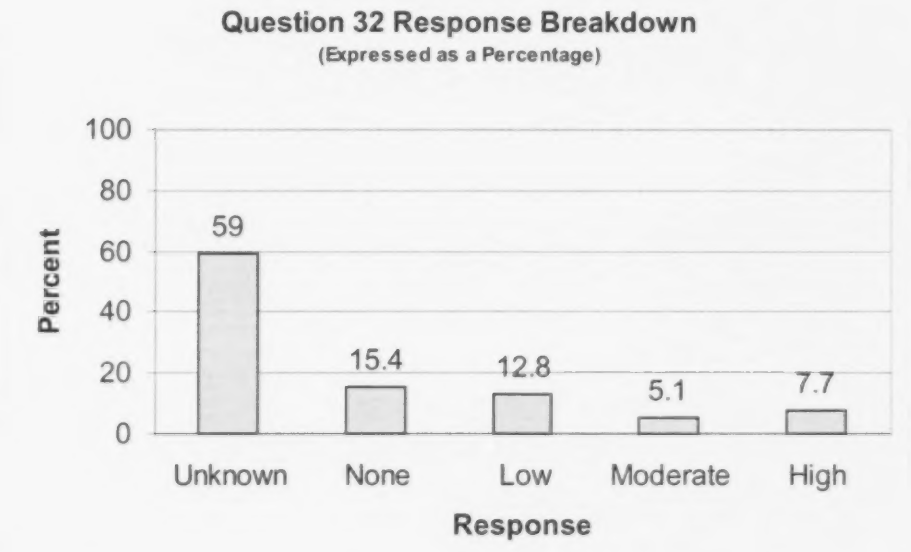


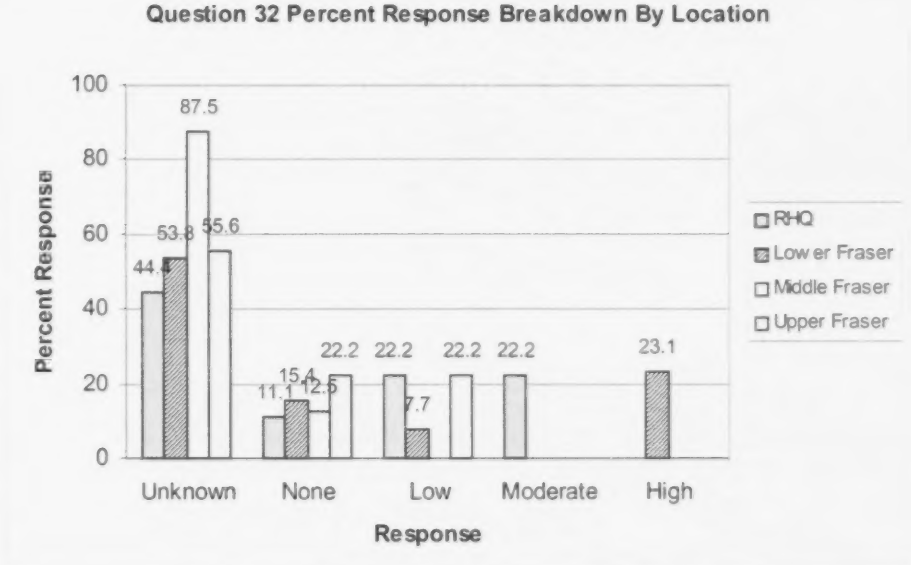


32. How would you rate the effectiveness of the FBC in facilitating meetings from the initial stages and guiding the process to ultimate solutions (with respect to fish and fish habitat)?

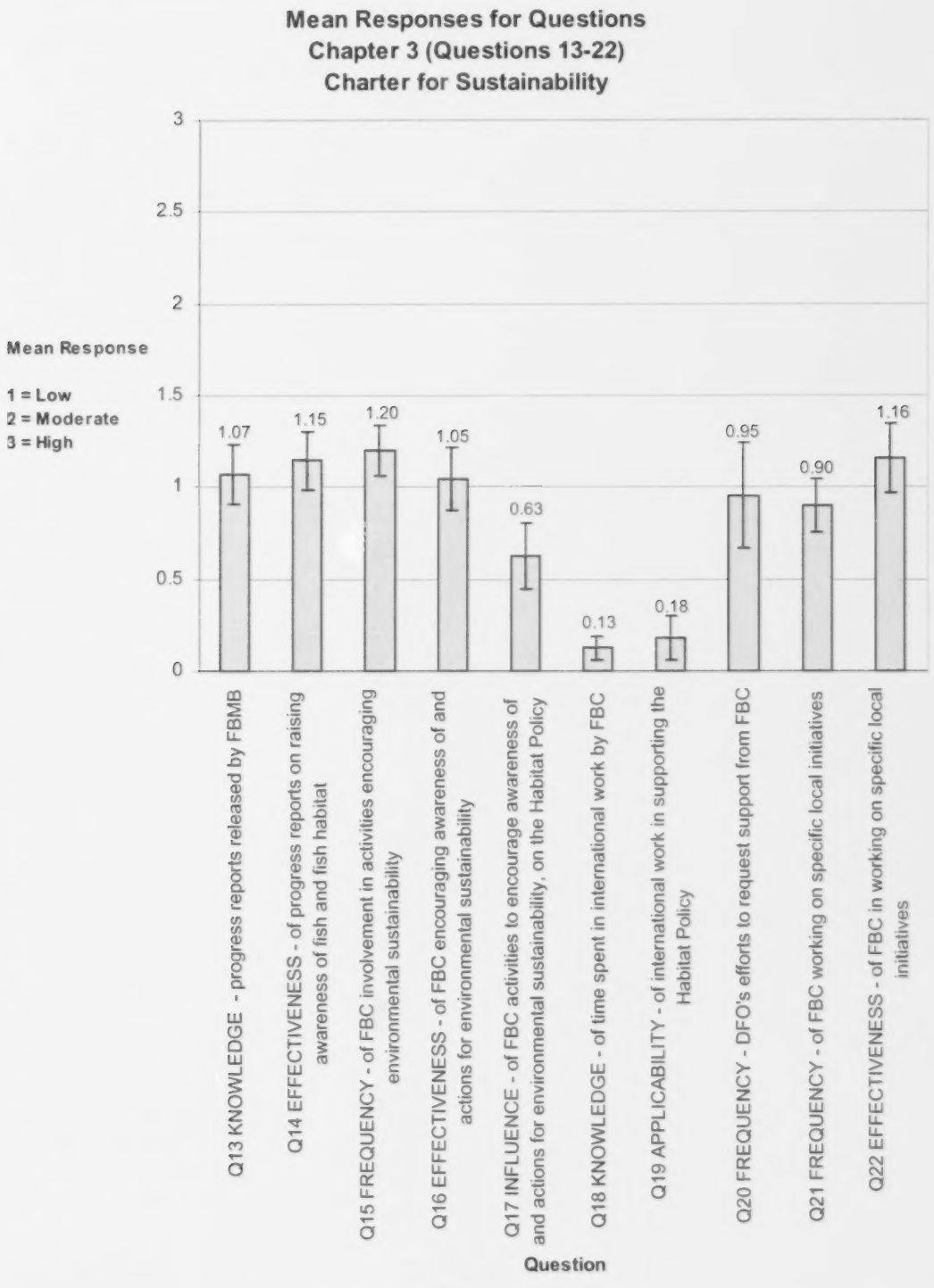
Number of Respondents: 39

Results:

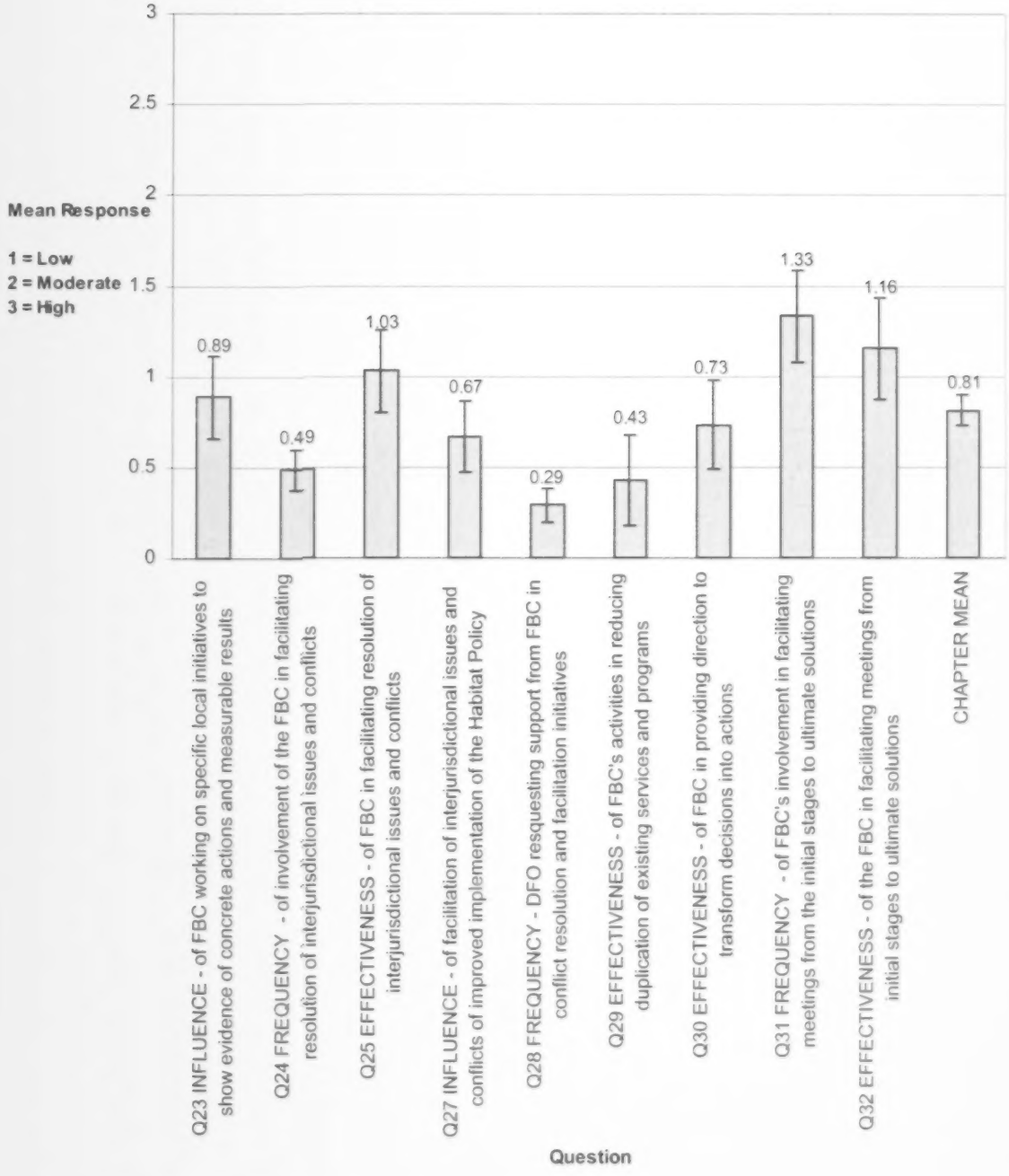




3.41 Chapter Summary:


Mean Responses for Questions
Chapter 3 (Questions 13-22)
Charter for Sustainability
Mean Response
1 = Low
2 = Moderate
3 = High
3
2.5
2
1.5
1
0.5
0
1.07
1.15
1.20
1.05
0.63
0.13
0.18
0.95
0.90
1.16
Q13 KNOWLEDGE - progress reports released by FBMB
Q14 EFFECTIVENESS - of progress reports on raising awareness of fish and fish habitat
Q15 FREQUENCY - of FBC involvement in activities encouraging environmental sustainability
Q16 EFFECTIVENESS - of FBC encouraging awareness of and actions for environmental sustainability
Q17 INFLUENCE - of FBC activities to encourage awareness of and actions for environmental sustainability, on the Habitat Policy
Q18 KNOWLEDGE - of time spent in international work by FBC
Q19 APPLICABILITY - of international work in supporting the Habitat Policy
Q20 FREQUENCY - DFO's efforts to request support from FBC
Q21 FREQUENCY - of FBC working on specific local initiatives
Q22 EFFECTIVENESS - of FBC in working on specific local initiatives
Question

Mean Responses for Questions
Chapter 3 (Questions 23-32 and Chapter Mean)
Charter for Sustainability


Mean Response
1 = Low
2 = Moderate
3 = High
3
2.5
2
1.5
1
0.5
0
0.89
0.49
1.03
0.67
0.29
0.43
0.73
1.33
1.16
0.81
Q23 INFLUENCE - of FBC working on specific local initiatives to show evidence of concrete actions and measurable results
Q24 FREQUENCY - of involvement of the FBC in facilitating resolution of interjurisdictional issues and conflicts
Q25 EFFECTIVENESS - of FBC in facilitating resolution of interjurisdictional issues and conflicts
Q27 INFLUENCE - of facilitation of interjurisdictional issues and conflicts of improved implementation of the Habitat Policy
Q28 FREQUENCY - DFO resquesting support from FBC in conflict resolution and facilitation initiatives
Q29 EFFECTIVENESS - of FBC's activities in reducing duplication of existing services and programs
Q30 EFFECTIVENESS - of FBC in providing direction to transform decisions into actions
Q31 FREQUENCY - of FBC's involvement in facilitating meetings from the initial stages to ultimate solutions
Q32 EFFECTIVENESS - of the FBC in facilitating meetings from initial stages to ultimate solutions
CHAPTER MEAN
Question

Appendix 3

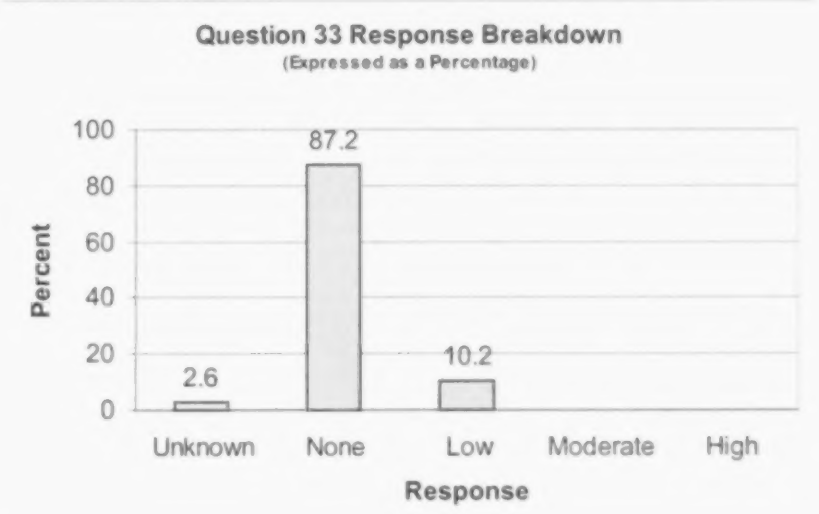
3.50 Chapter Four Results: Basin Wide Actions of the FBC

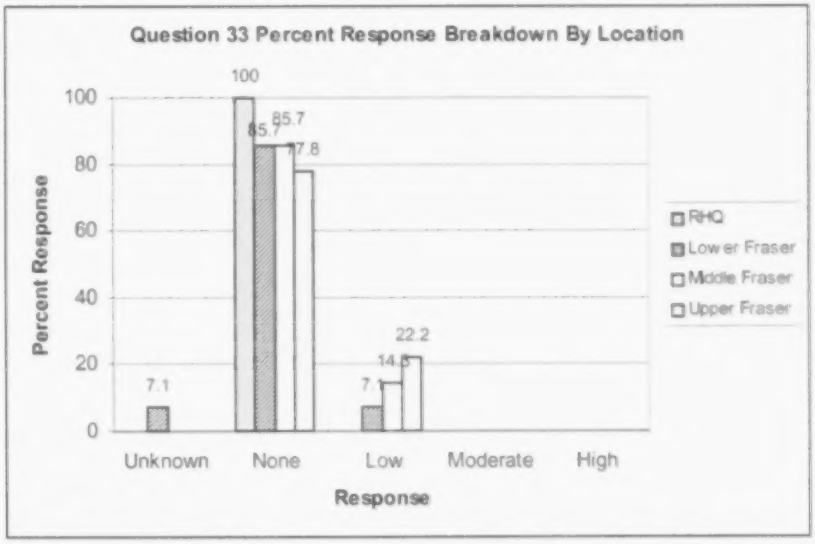
Individual Question Summaries:

33. Indicate the frequency of contact with the DFO-FBC representative, requesting input from DFO regarding the FBC's activities?
[Low (1 time/yr.); Moderate (2 times/yr.); High (3 times/yr.)]

Number of Respondents: 39

Results:

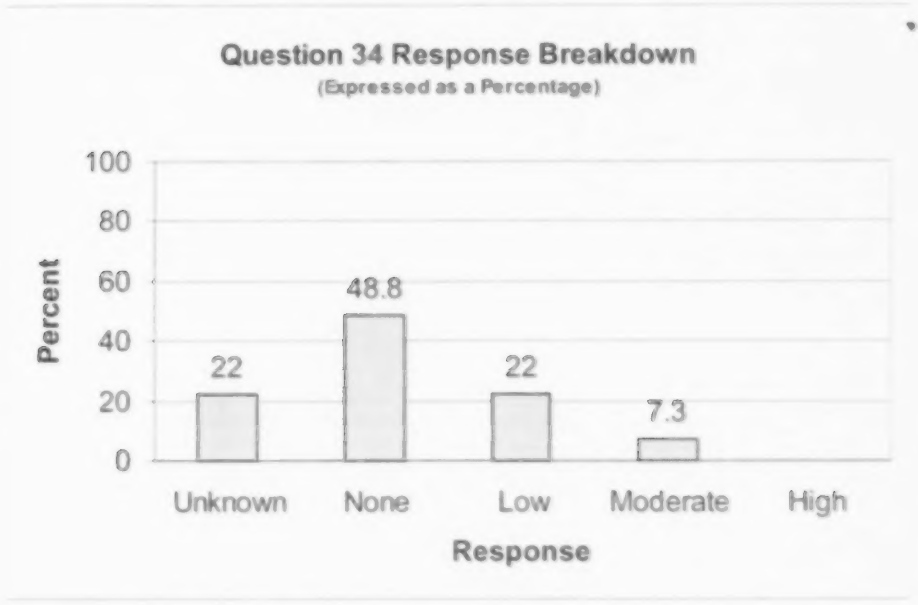


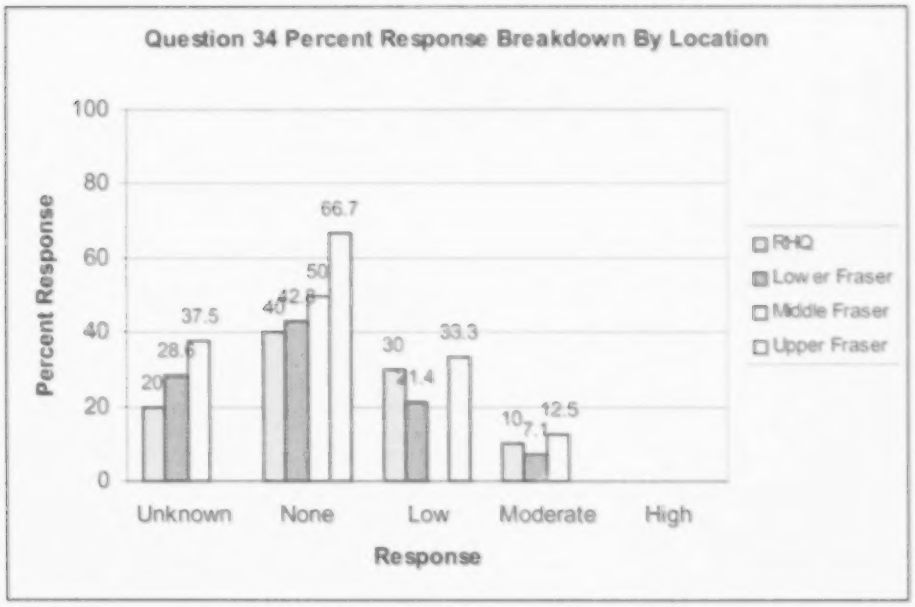


34. How would you rate your knowledge of the FBC's Five-Year Action Plan?

Number of Respondents: 41

Results:

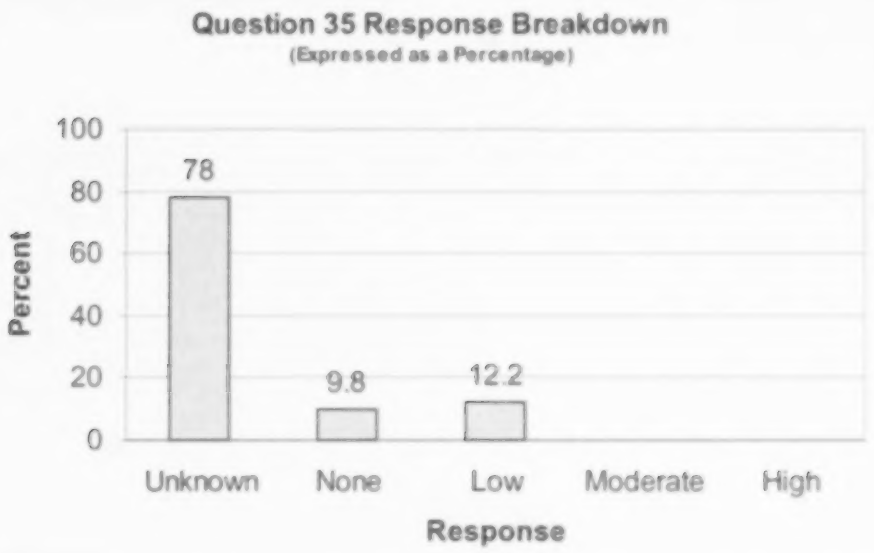


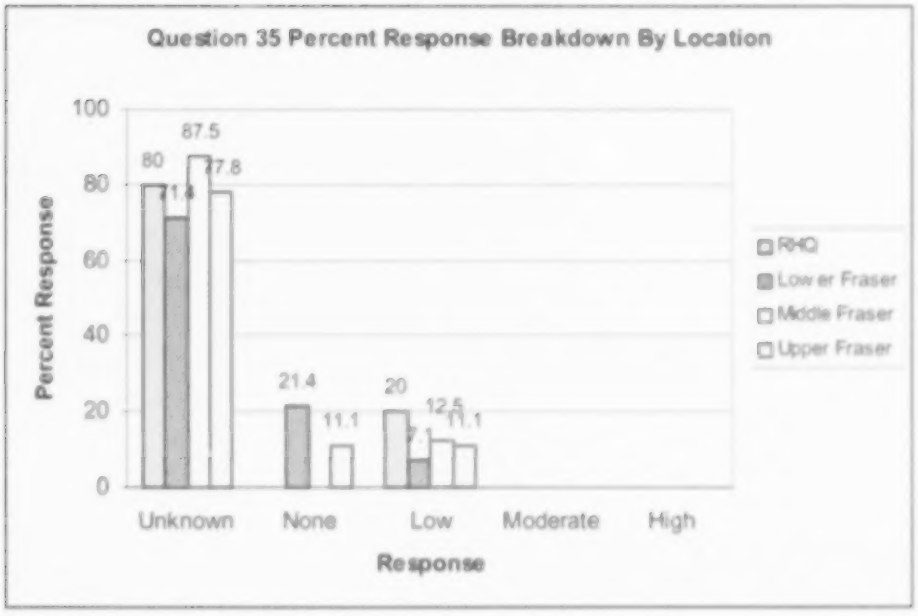


35. How would you rate the effectiveness of the Five Year Action Plan in providing a mechanism for monitoring, reporting and increasing the profile of fish and fish habitat sustainability issues in the Fraser Basin?

Number of Respondents: 41

Results:

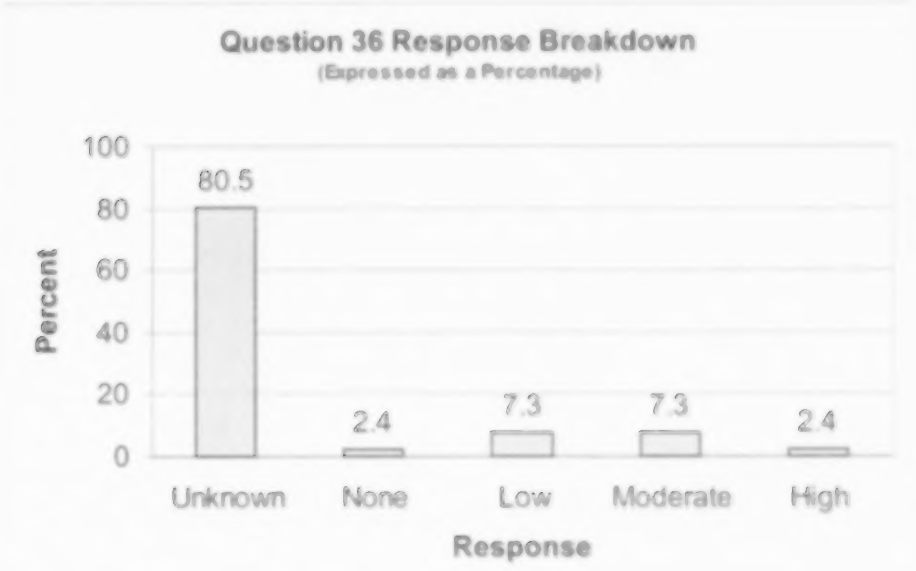


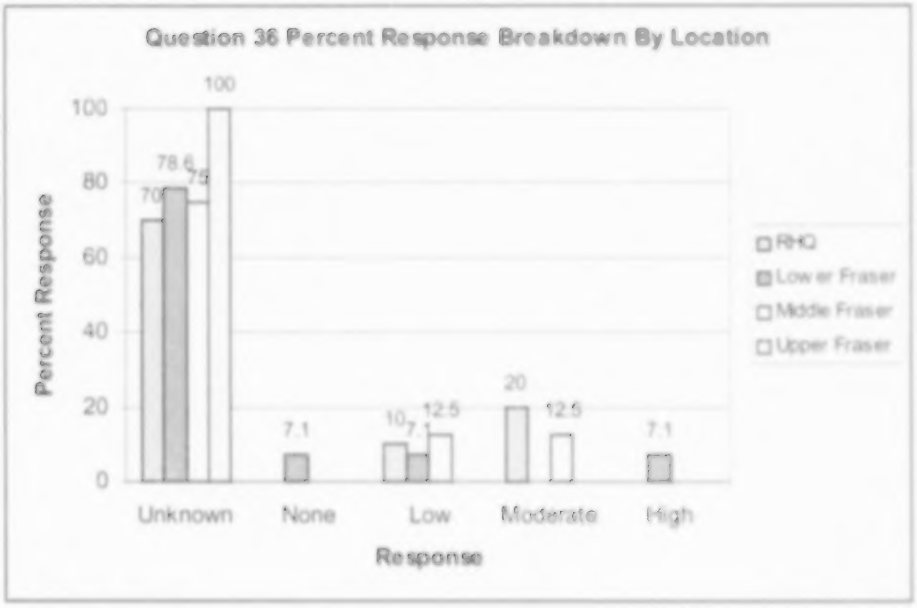


36. Indicate the influence of the FBC's role in facilitating consultation and achieving designation of the Fraser River as a Canadian Heritage River?

Number of Respondents: 41

Results:

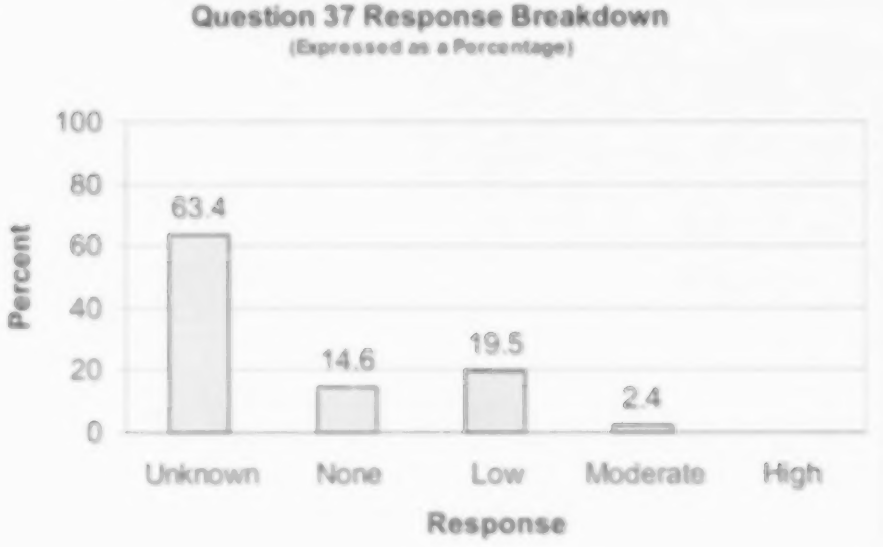


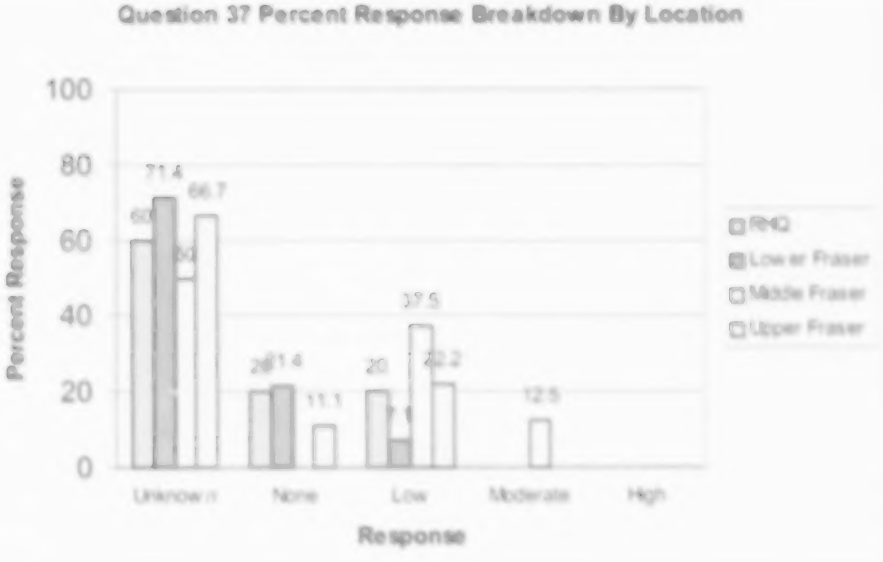


37. **How would you rate the increased awareness and profile of fish and fish habitat in the Fraser Basin as a result of the FBC's role in designating the Fraser River as a Canadian Heritage River?**

Number of Respondents: 41

Results:

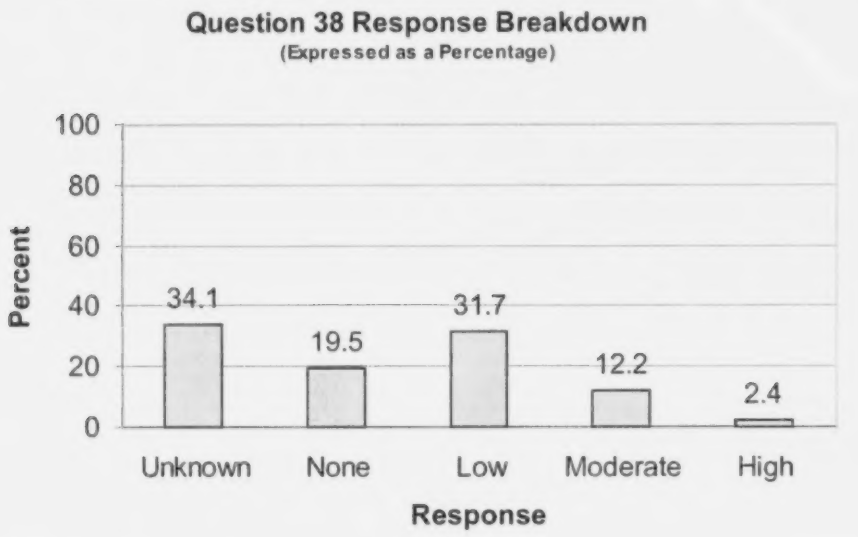


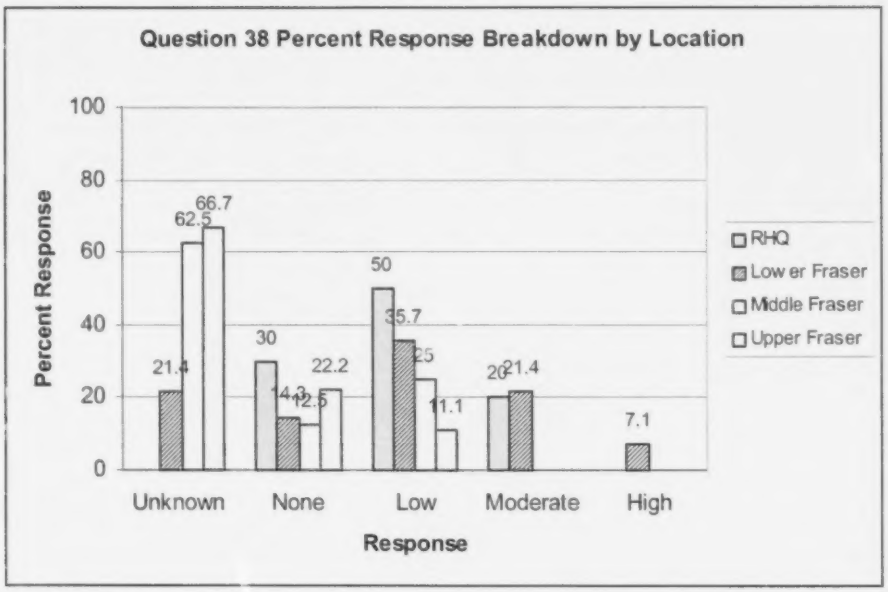


38. How would you rate your awareness of the FBC's involvement in facilitating the re-activation of the Agassiz Debris Trap and developing the Regional Debris Management Strategy?

Number of Respondents: 41

Results:

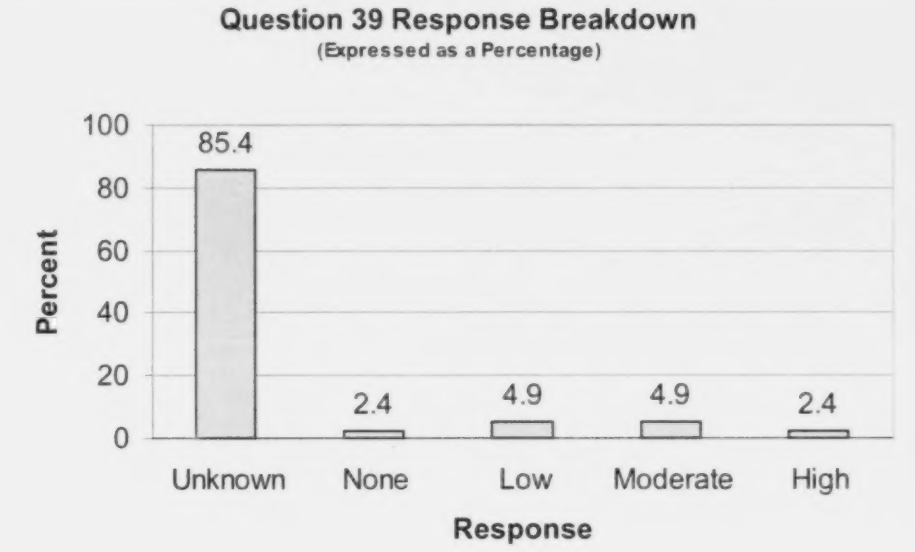


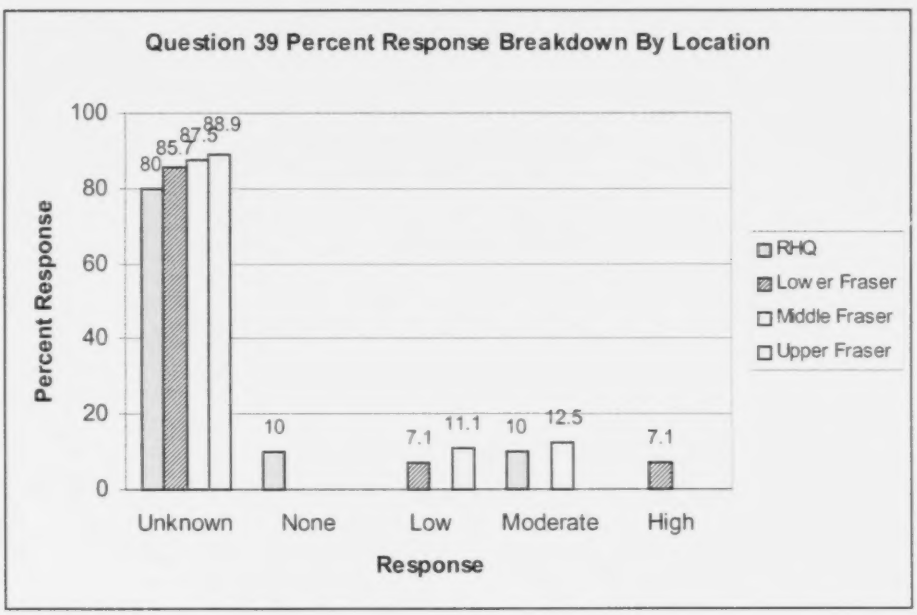


39. How would you rate the effectiveness (with respect to fish and fish habitat) of the FBC's involvement in facilitating the re-activation of the Agassiz Debris Trap and developing the Regional Debris Management Strategy?

Number of Respondents: 41

Results:

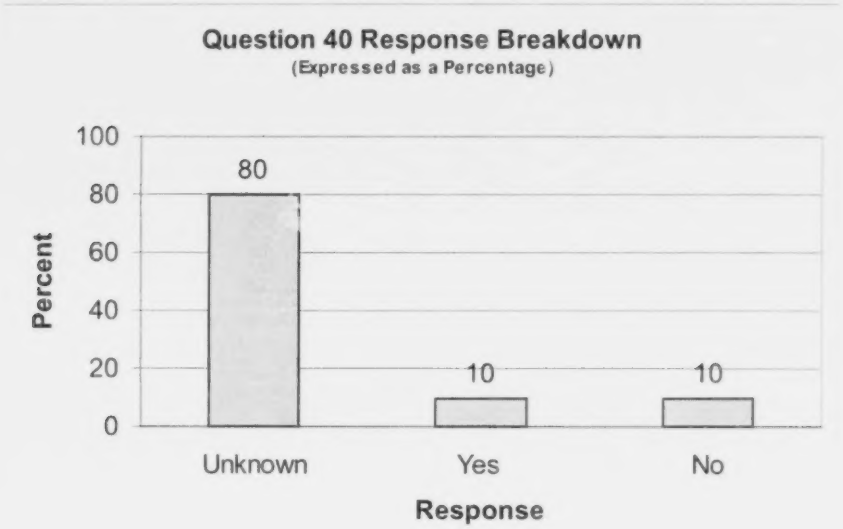


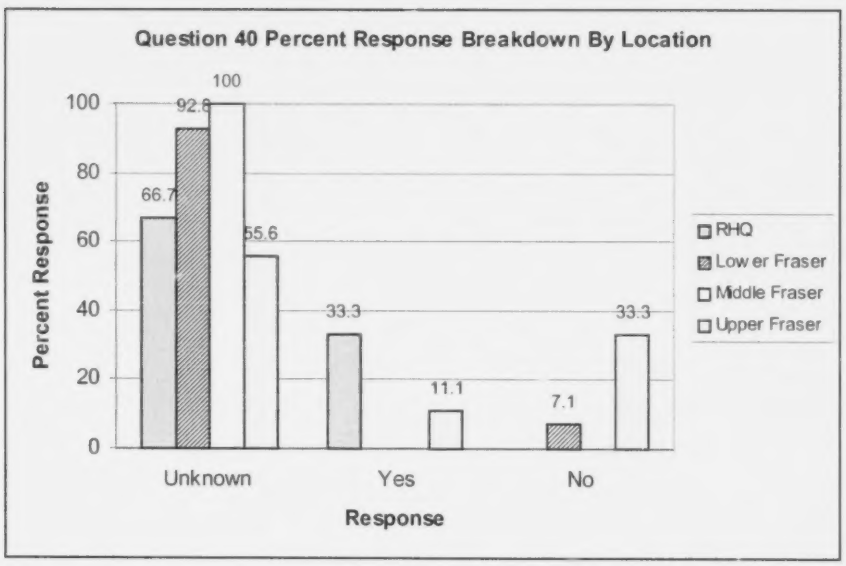


40. As an experimental entity, the FBMB and FBC have been involved in a variety of different activities. Are there activities that they were involved in the past that they are not doing anymore, that you feel were of benefit to fish and fish habitat? If so, can you list them?

Number of Respondents: 40

Results:

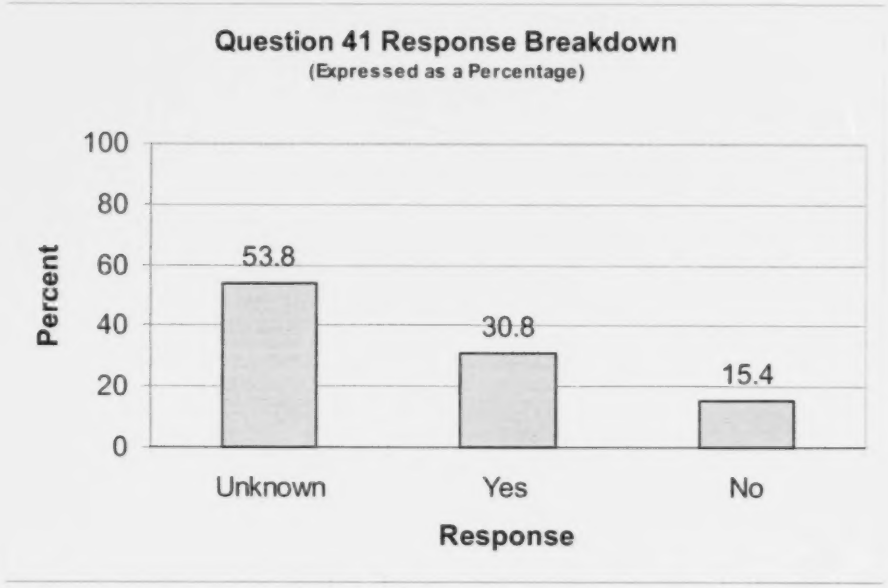


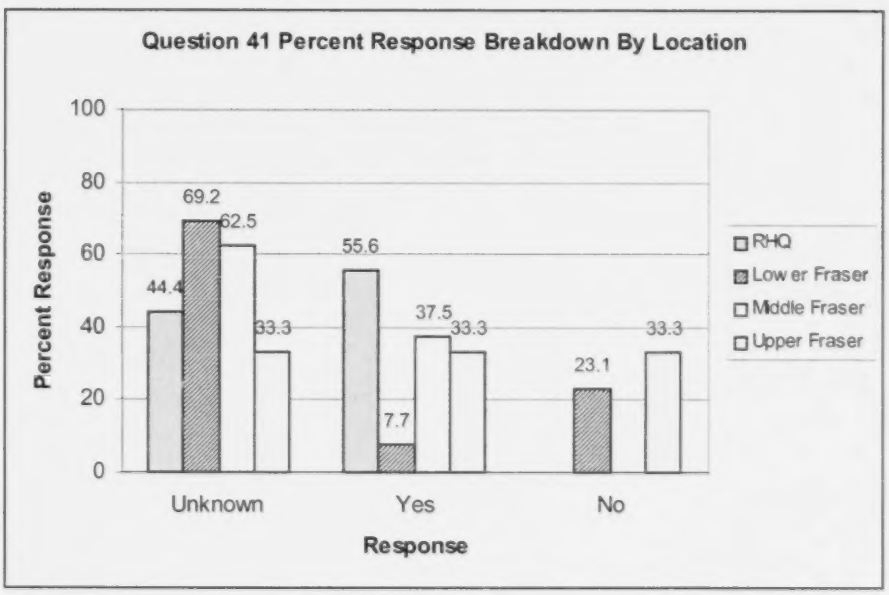


41. Are there specific activities or issues in your area that complement the FBC's *Charter* and support the protection of fish habitat that you would like to see the FBC get involved with? If so, please list.

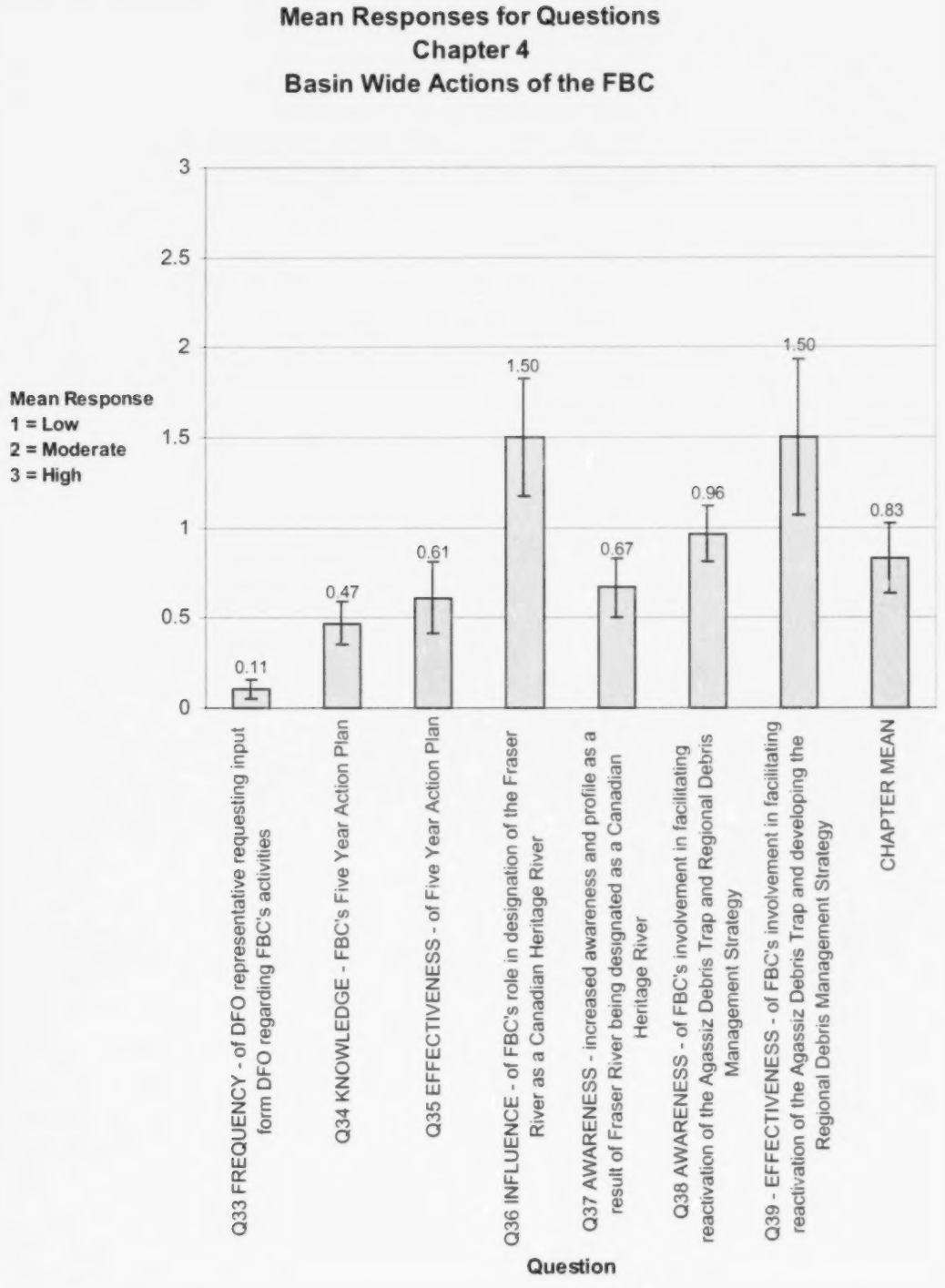
Number of Respondents: 39

Results:





3.51 Chapter Summary:


Mean Responses for Questions
Chapter 4
Basin Wide Actions of the FBC
Mean Response
1 = Low
2 = Moderate
3 = High
3
2.5
2
1.5
1
0.5
0
0.11
0.47
0.61
1.50
0.67
0.96
1.50
0.83
Q33 FREQUENCY - of DFO representative requesting input form DFO regarding FBC's activities
Q34 KNOWLEDGE - FBC's Five Year Action Plan
Q35 EFFECTIVENESS - of Five Year Action Plan
Q36 INFLUENCE - of FBC's role in designation of the Fraser River as a Canadian Heritage River
Q37 AWARENESS - increased awareness and profile as a result of Fraser River being designated as a Canadian Heritage River
Q38 AWARENESS - of FBC's involvement in facilitating reactivation of the Agassiz Debris Trap and Regional Debris Management Strategy
Q39 - EFFECTIVENESS - of FBC's involvement in facilitating reactivation of the Agassiz Debris Trap and developing the Regional Debris Management Strategy
CHAPTER MEAN
Question

Appendix 4

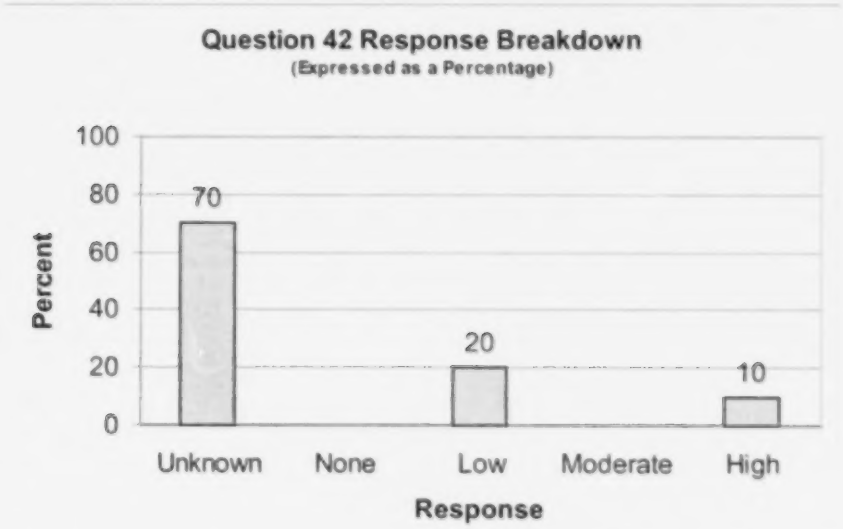
3.60 Chapter Five Results: Regional Activities – Upper Fraser

Individual Question Summaries:

42. How would you rate the effectiveness of the FBC's role in establishing the Nechako Watershed Council?

Number of Respondents: 10

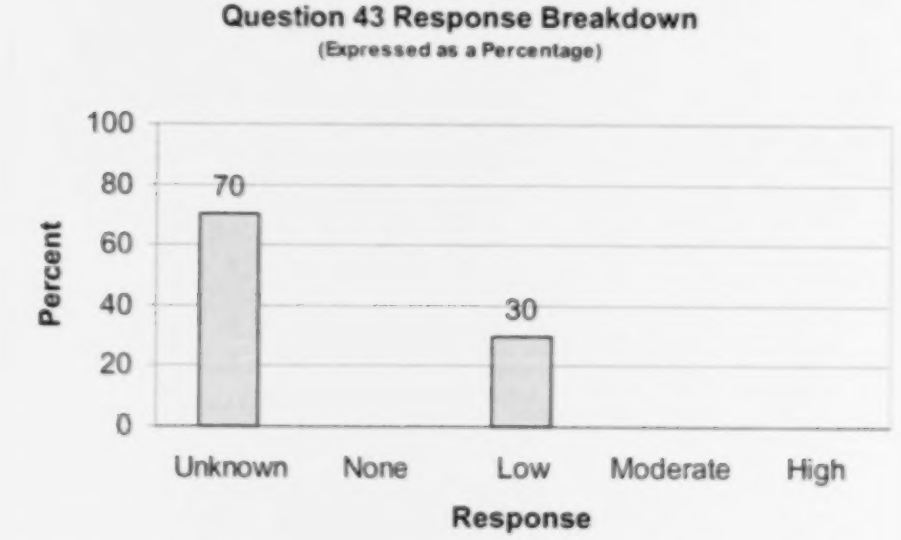
Results:



43. How would you rate the effectiveness of the FBC's involvement in facilitating the Nechako Watershed Council?

Number of Respondents: 10

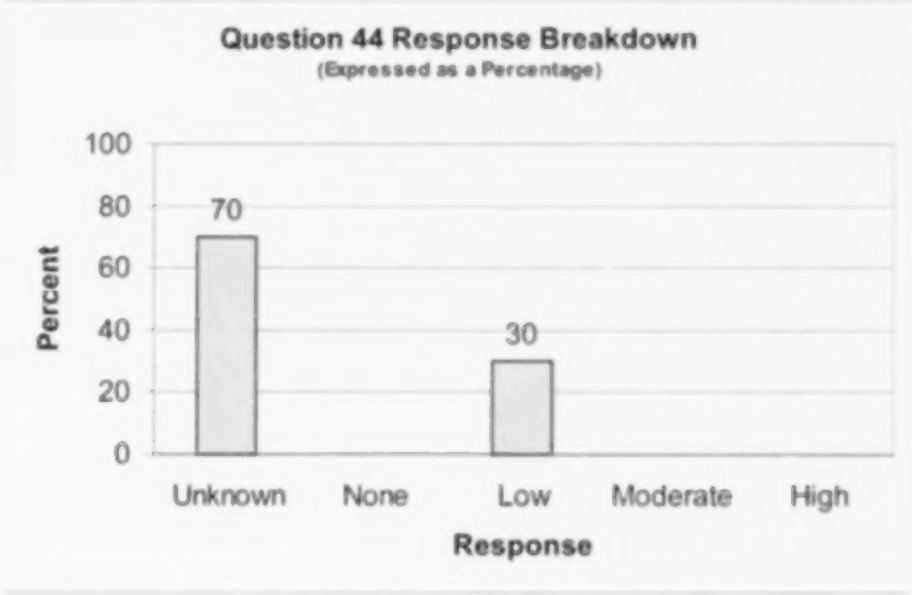
Results:



44. When considering the FBC's involvement in the Nechako Watershed Council, how would you rate the effectiveness of the FBC in achieving improved decision making, by incorporating input from a wide variety of groups and individuals?

Number of Respondents: 10

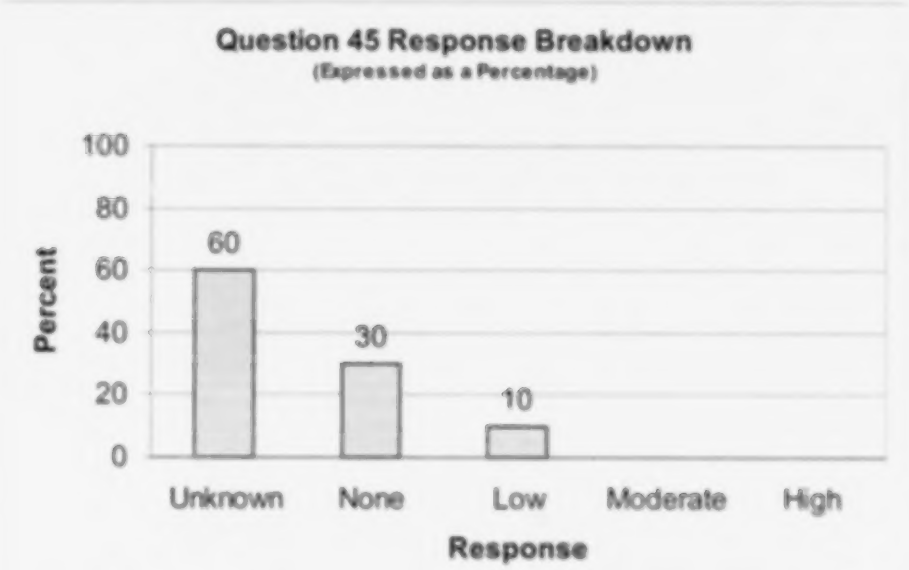
Results:



45. The FBC has been actively involved in the Nechako Watershed Council. Indicate the influence of this activity on the improved fish habitat protection.

Number of Respondents: 10

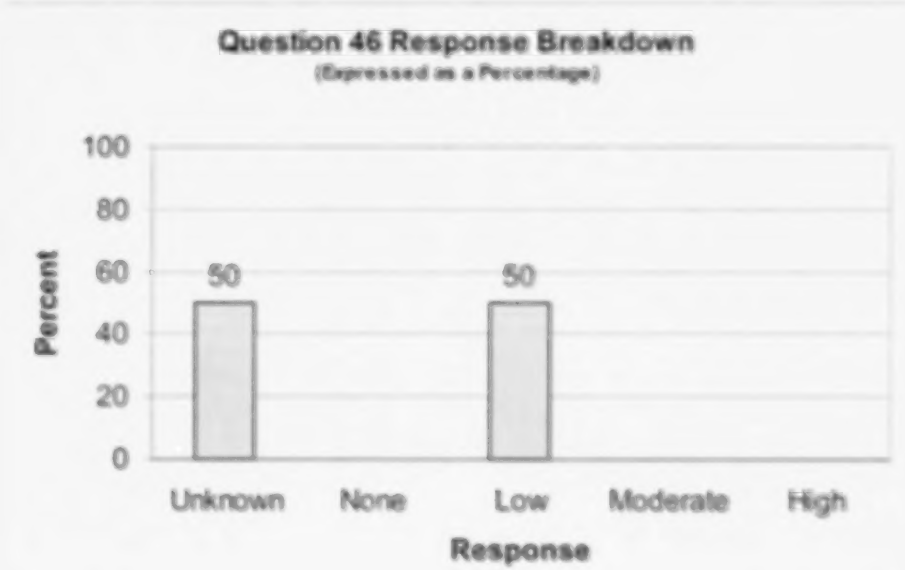
Results:



46. How would you rate the effectiveness of the FBC in facilitating the multi-interest involvement process to review, assess and report on options available for downstream enhancement of the Nechako Environmental Enhancement Fund?

Number of Respondents: 10

Results:



47. How would you rate the effectiveness (with respect to fish and fish habitat) of the FBC's efforts to develop and implement a water management planning process for the Nechako Watershed?

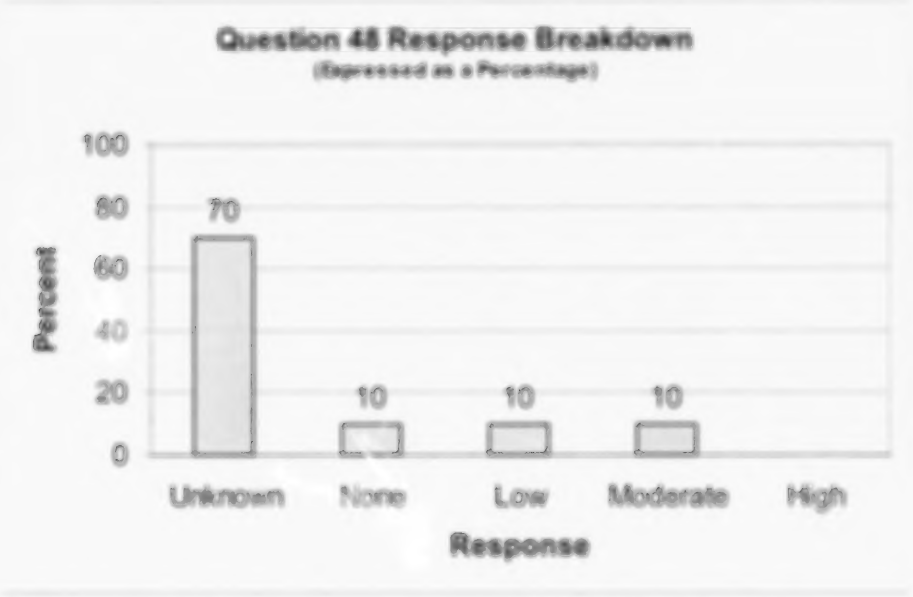
Number of Respondents: 10

Results:

48. The FBC successfully influenced the City of Quesnel to incorporate the principles of the *Charter for Sustainability* into its revised Official Community Plan (OCP). Indicate the influence if this FBC activity on protection of fish habitat in the Quesnel area.

Number of Respondents: 10

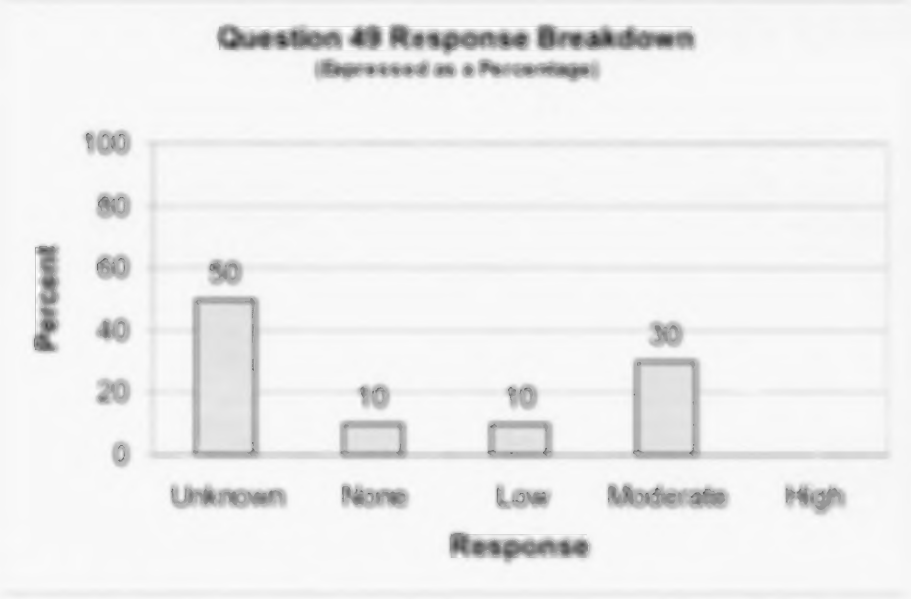
Results:



49. How would you rate the effectiveness of the FBC's role in establishing the McMillan Creek Stewardship Project?

Number of Respondents: 10

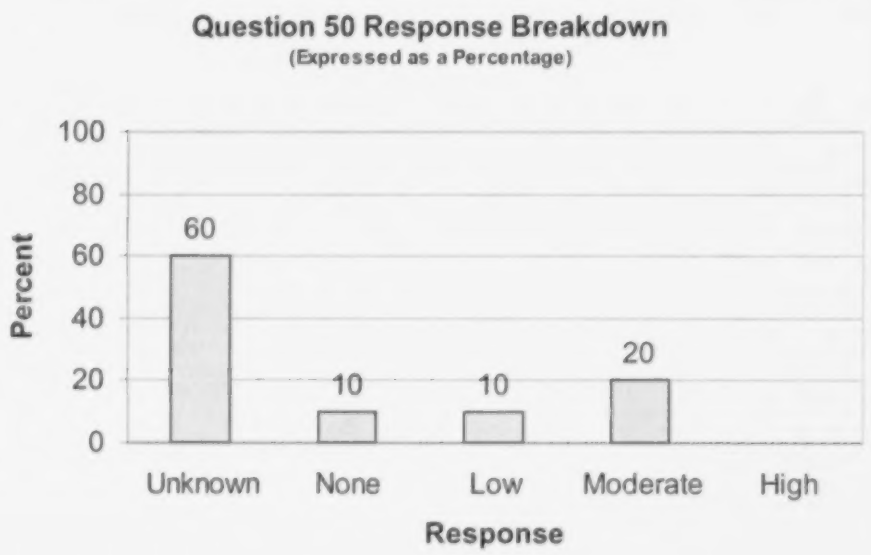
Results:



50. How would you rate the effectiveness of the FBC in raising awareness and improving understanding of fish and fish habitat through their involvement with the McMillan Creek Stewardship Project?

Number of Respondents: 10

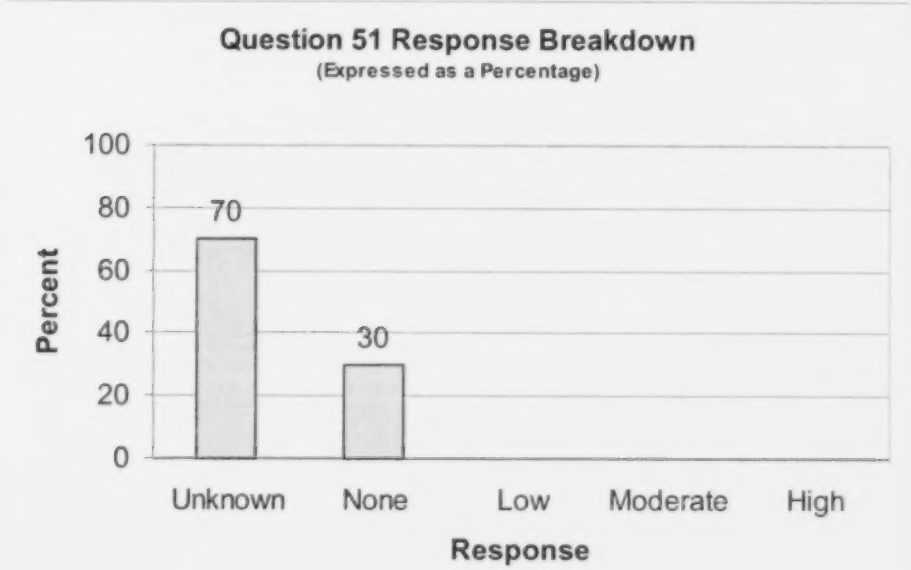
Results:



51. How would you rate the effectiveness of the FBC in improving decision making through their involvement with the McMillan Creek Stewardship Project?

Number of Respondents: 10

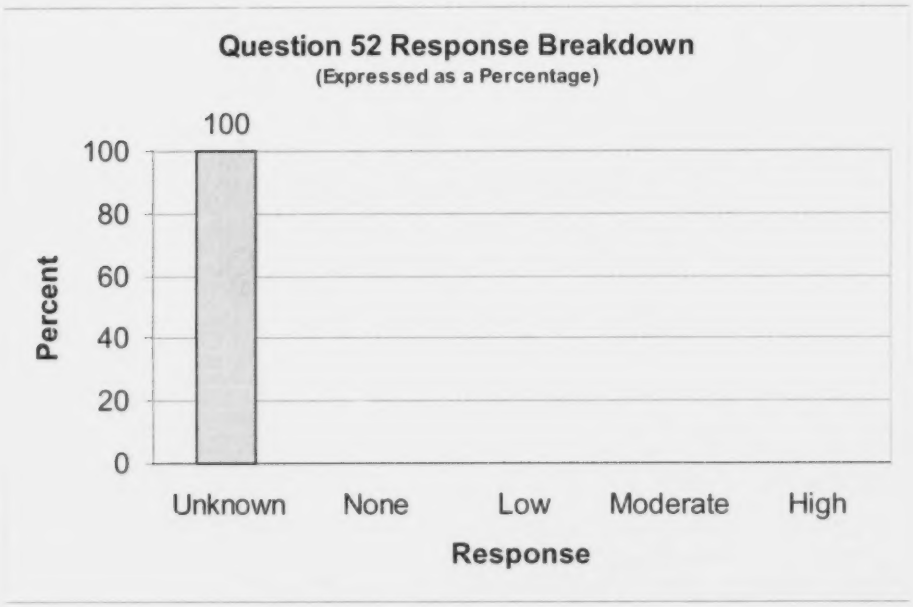
Results:



52. How would you rate the effectiveness of the FBC's role as agency liaison for the Omineca Peace Interagency Management Committee (IAMC)?

Number of Respondents: 10

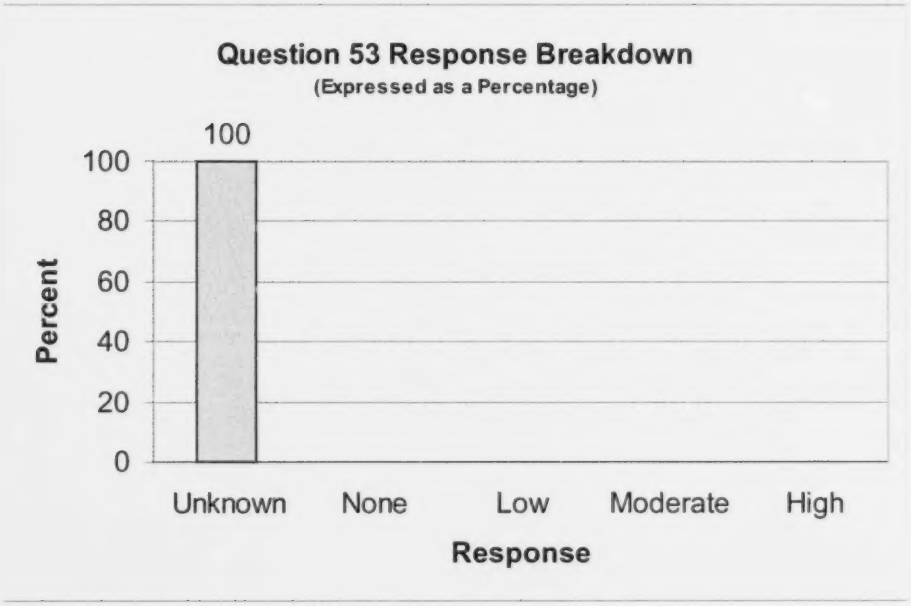
Results:



53. One of the DFO uses of the IAMC has been completion of five Land and Resource Management Plans (LRMPs) in the Omineca Peace Region. Indicate the influence of the FBC's involvement as agency liaison of the IAMC on achieving this objective.

Number of Respondents: 10

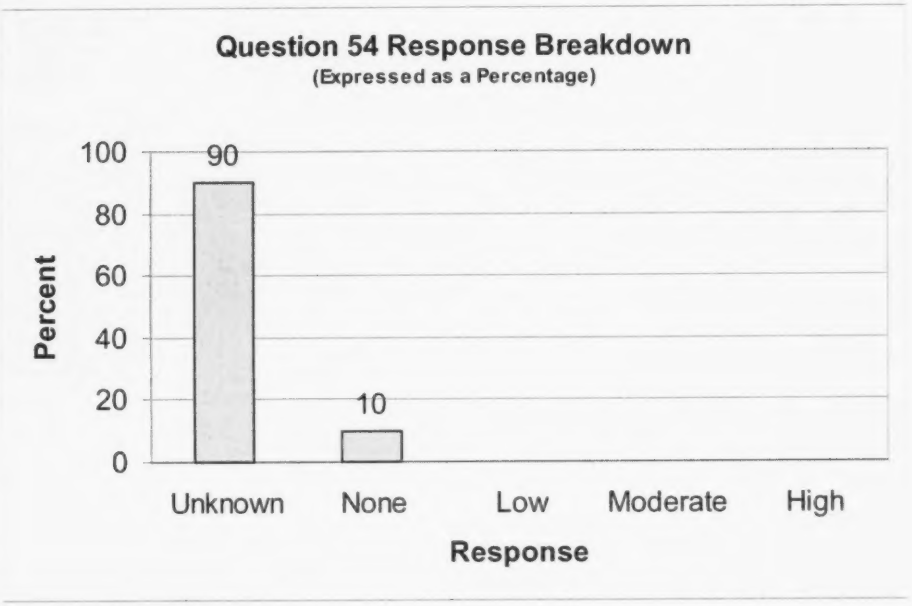
Results:



54. Indicate the influence of the FBC's involvement with the IAMC on improved fish habitat protection.

Number of Respondents: 10

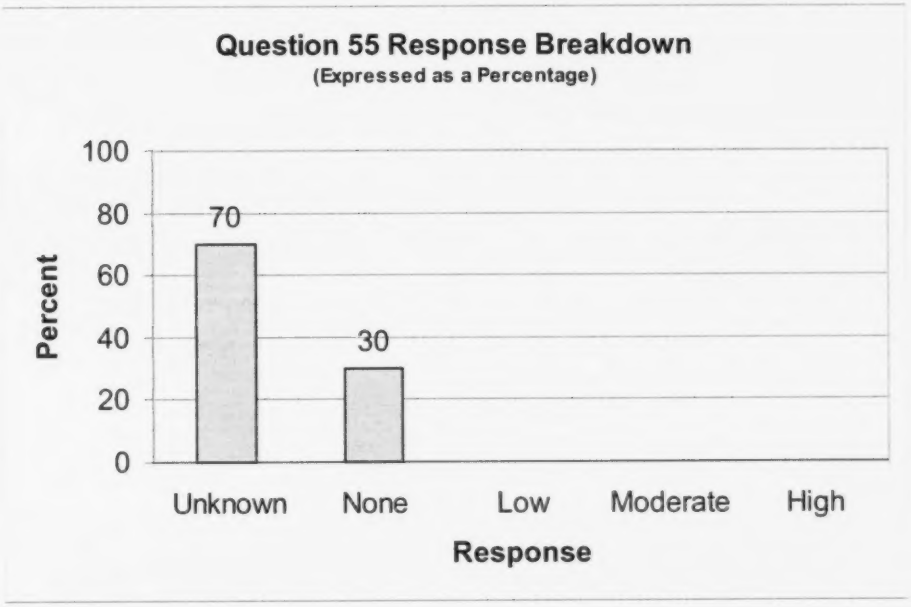
Results:



55. The FBC worked with the Cariboo Chilcotin Regional Resource Board to facilitate strategic level discussions regarding the implementation of the Cariboo Chilcotin Land Use Plan and provide detailed directions to resource managers on how to achieve the intent of the Land Use Plan. How would you rate the effectiveness of the FBC in this activity?

Number of Respondents: 10

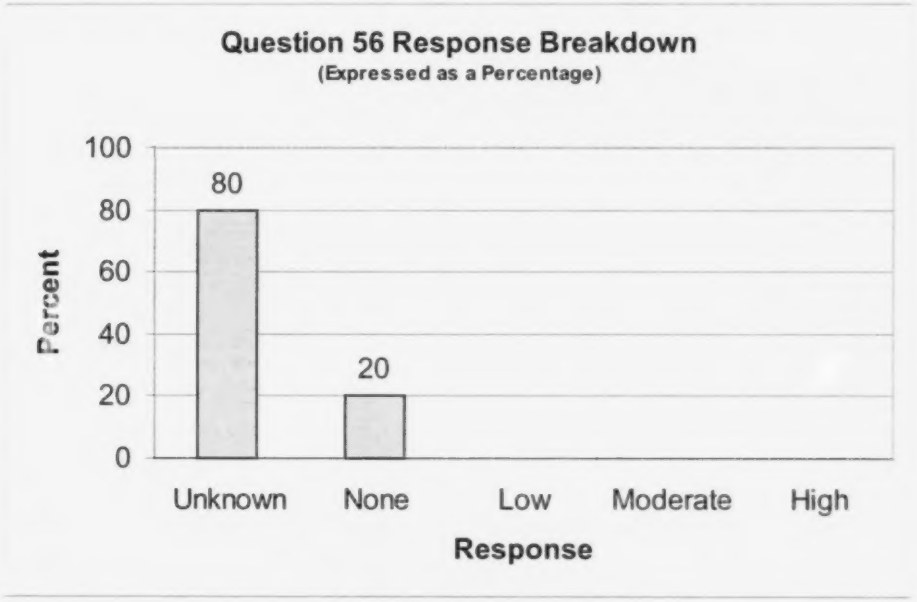
Results:



56. Indicate the influence of the FBC's involvement with the Cariboo Chilcotin Regional Resource Board on improved integrated resource planning (with respect to fish and fish habitat).

Number of Respondents: 10

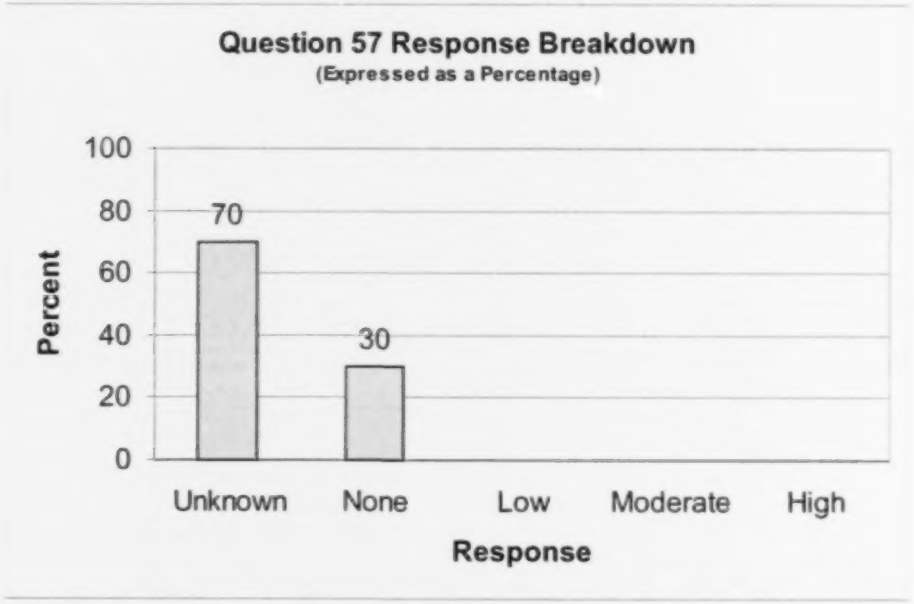
Results:



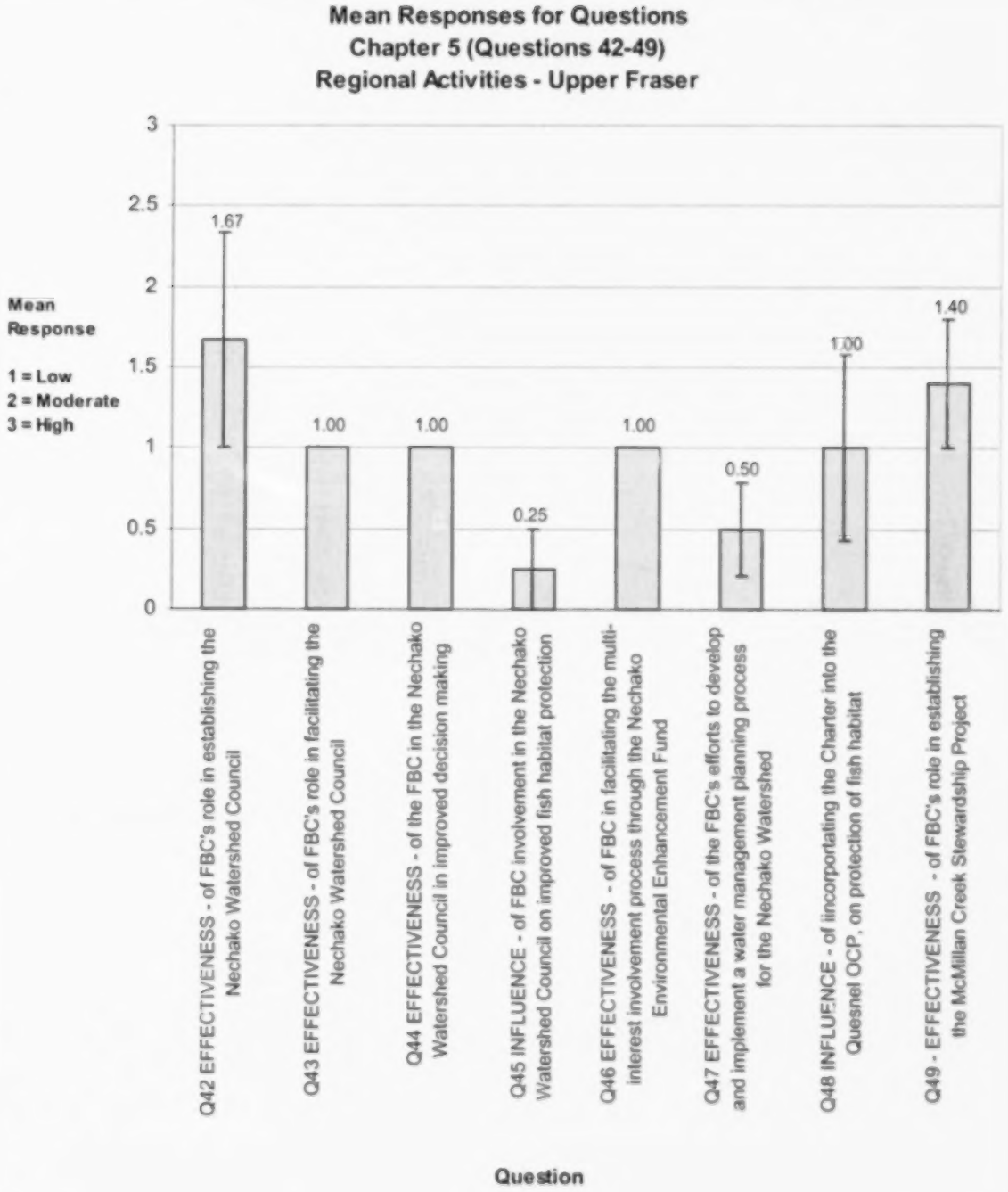
57. The FBC works with the Cariboo Chilcotin Fish Enhancement Society and the Cariboo Chilcotin Conservation Society to help strengthen these watershed groups. How would you rate the effectiveness of the FBC in this activity?

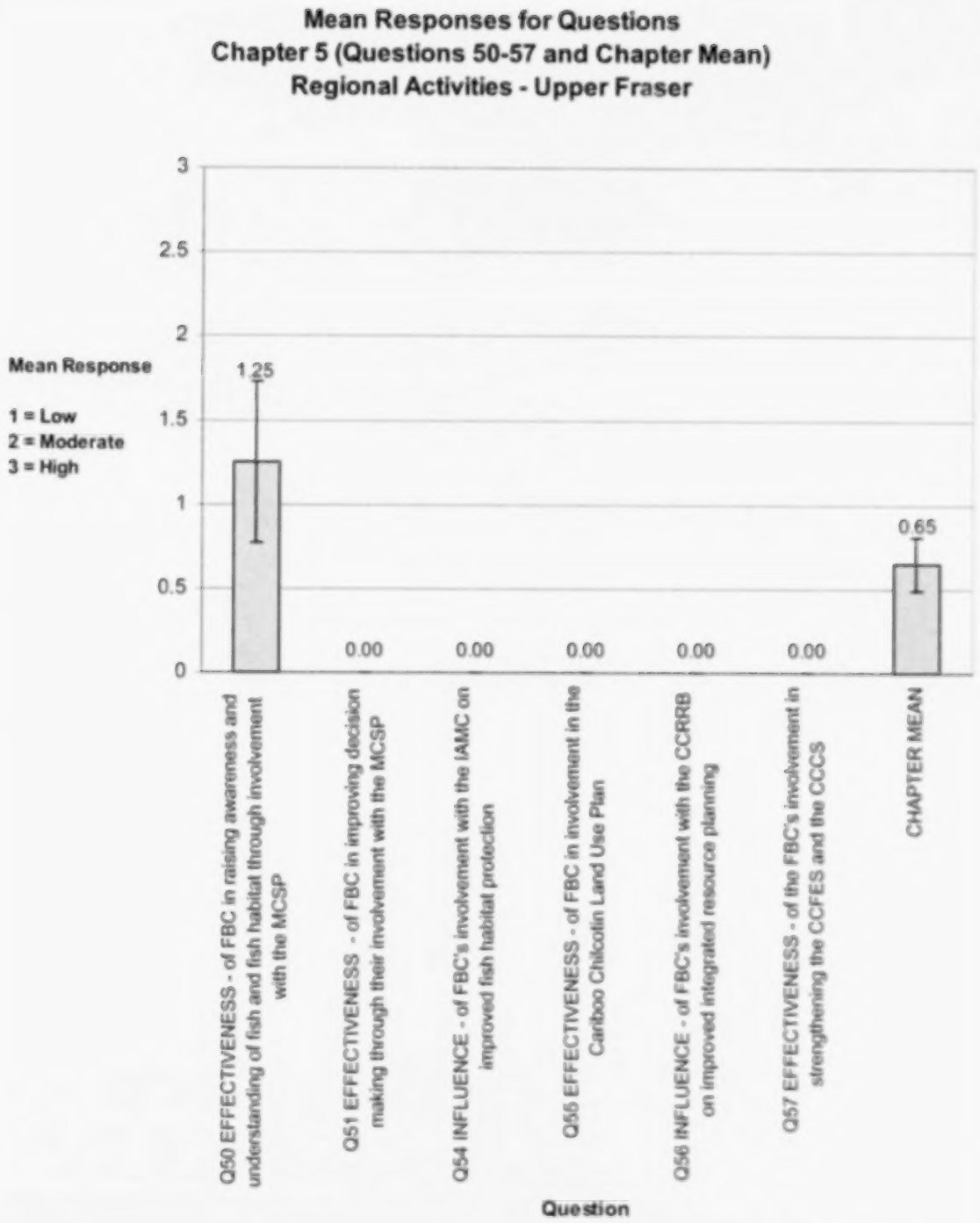
Number of Respondents: 10

Results:



3.61 Chapter Summary:


Mean Responses for Questions
Chapter 5 (Questions 42-49)
Regional Activities - Upper Fraser
Mean Response
1 = Low
2 = Moderate
3 = High
3
2.5
2
1.5
1
0.5
0
1.67
1.00
1.00
0.25
1.00
0.50
1.00
1.40
Q42 EFFECTIVENESS - of FBC's role in establishing the Nechako Watershed Council
Q43 EFFECTIVENESS - of FBC's role in facilitating the Nechako Watershed Council
Q44 EFFECTIVENESS - of the FBC in the Nechako Watershed Council in improved decision making
Q45 INFLUENCE - of FBC involvement in the Nechako Watershed Council on improved fish habitat protection
Q46 EFFECTIVENESS - of FBC in facilitating the multi-interest involvement process through the Nechako Environmental Enhancement Fund
Q47 EFFECTIVENESS - of the FBC's efforts to develop and implement a water management planning process for the Nechako Watershed
Q48 INFLUENCE - of iincorportating the Charter into the Quesnel OCP, on protection of fish habitat
Q49 - EFFECTIVENESS - of FBC's role in establishing the McMillan Creek Stewardship Project
Question


Mean Responses for Questions
Chapter 5 (Questions 50-57 and Chapter Mean)
Regional Activities - Upper Fraser
Mean Response
1 = Low
2 = Moderate
3 = High
3
2.5
2
1.5
1
0.5
0
1.25
0.00
0.00
0.00
0.00
0.00
0.65
Q50 EFFECTIVENESS - of FBC in raising awareness and understanding of fish and fish habitat through involvement with the MCSP
Q51 EFFECTIVENESS - of FBC in improving decision making through their involvement with the MCSP
Q54 INFLUENCE - of FBC's involvement with the IAMC on improved fish habitat protection
Q55 EFFECTIVENESS - of FBC in involvement in the Cariboo Chilcotin Land Use Plan
Q56 INFLUENCE - of FBC's involvement with the CCRRB on improved integrated resource planning
Q57 EFFECTIVENESS - of the FBC's involvement in strengthening the CCFES and the CCCS
CHAPTER MEAN
Question

Appendix 5

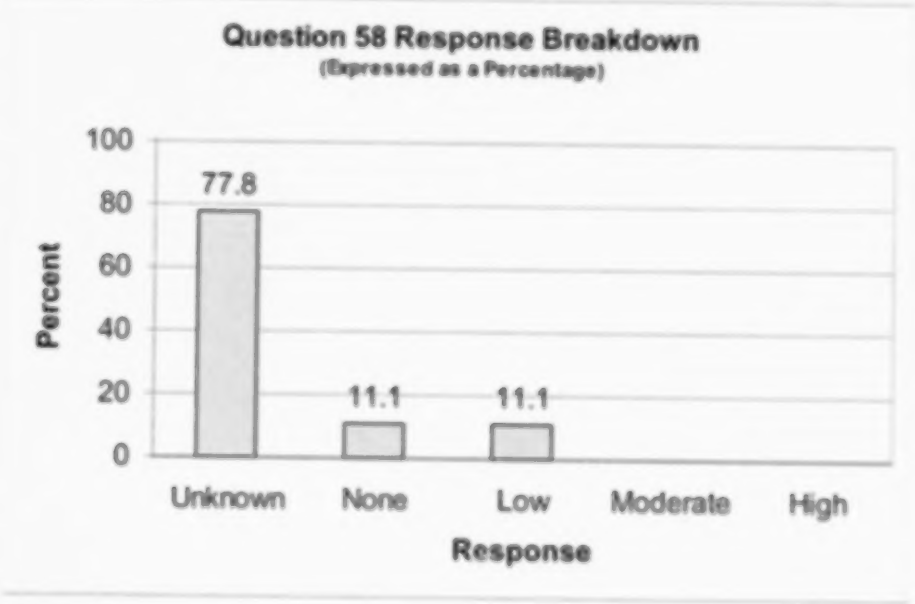
3.70 Chapter Six Results: Regional Activities – Middle Fraser

Individual Question Summaries:

58. The FBC have been involved in organizing and facilitating multiple agencies and interest groups for an information session focussed on protecting water quality in the Bridge River Watershed. How would you rate the effectiveness of the FBC in this activity?

Number of Respondents: 9

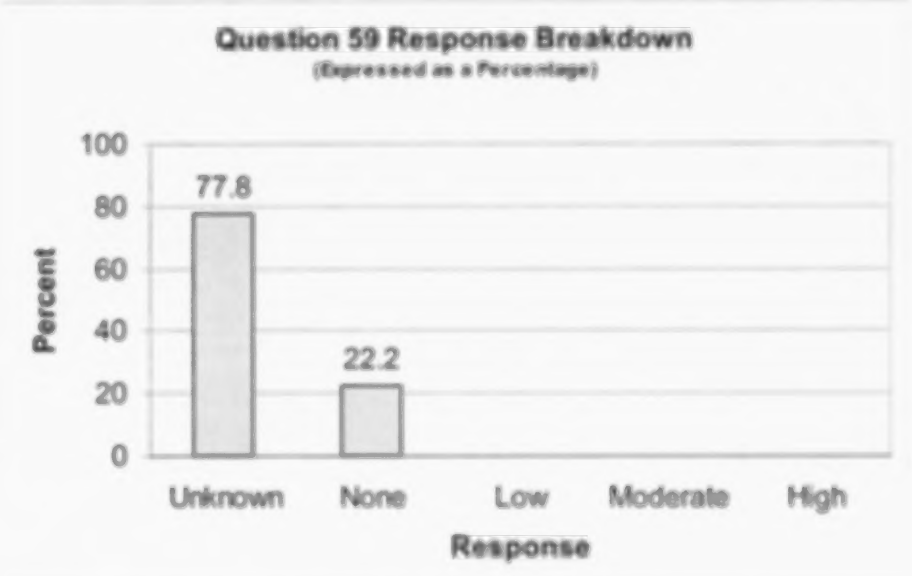
Results:



59. Indicate the influence of the FBC's role in organising and facilitating the Bridge Creek watershed initiative on improved awareness and protection of fish and fish habitat.

Number of Respondents: 9

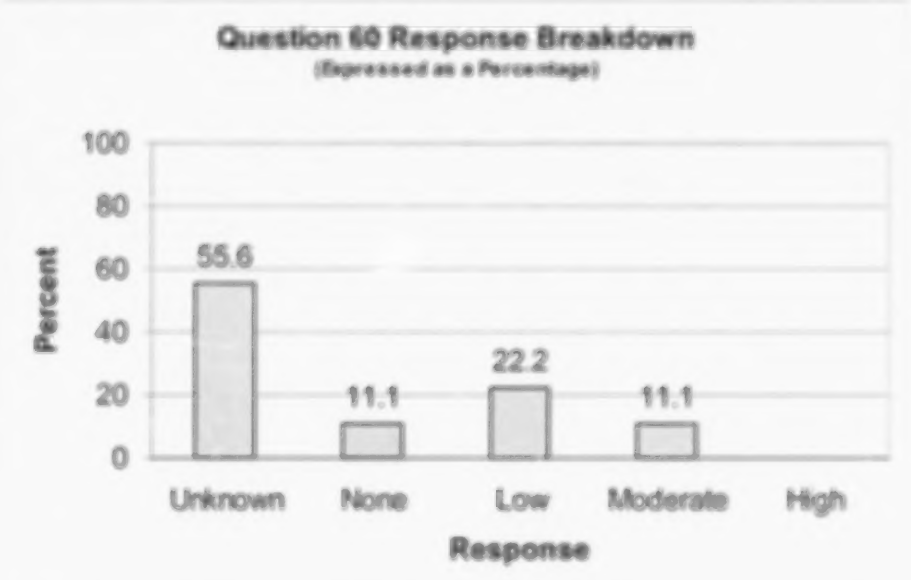
Results:



60. The FBC attempted to bring all the parties together to develop a vision for the restoration of the Chase Creek watershed. How would you rate the effectiveness of the FBC in this activity?

Number of Respondents: 9

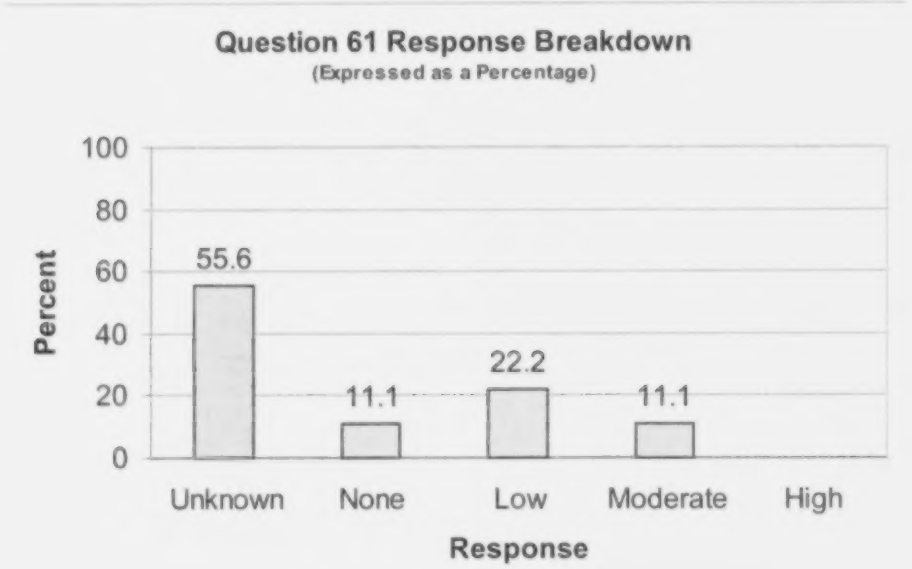
Results:



61. Indicate the influence of the FBC's involvement with the Chase Creek Watershed initiative on the delivery of Habitat Restoration in that watershed.

Number of Respondents: 9

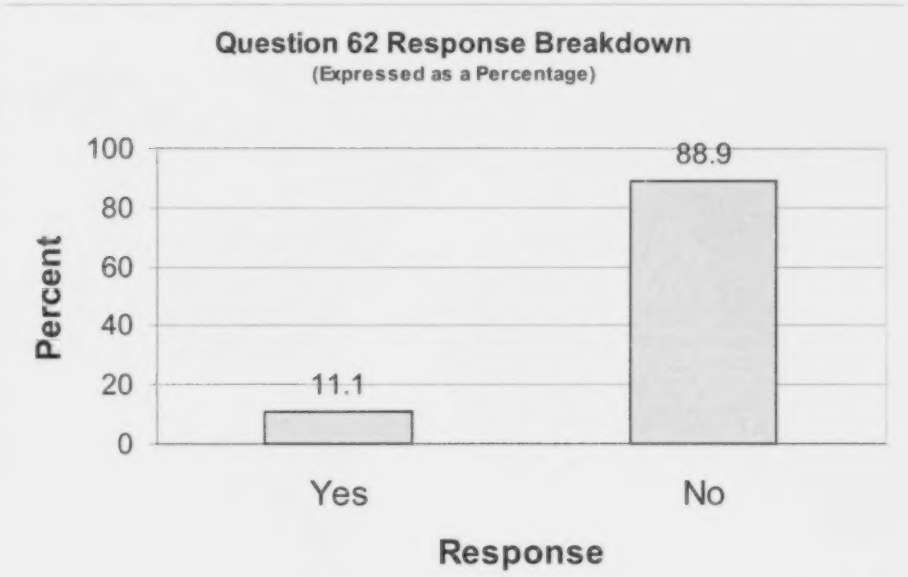
Results:



62. **The FBC has been involved with bringing together First Nations and federal and provincial resource managers to work together in a non-political Intergovernmental Forum On Resource Management (INFORM) to make decisions on resource management. Are you aware of this activity?**

Number of Respondents: 9

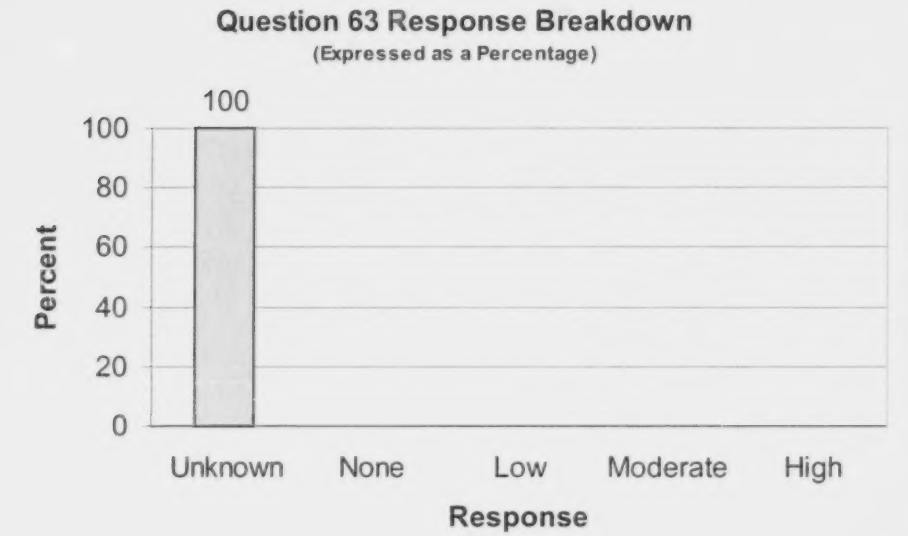
Results:



63. How would you rate the effectiveness of the FBC in this activity?

Number of Respondents: 1

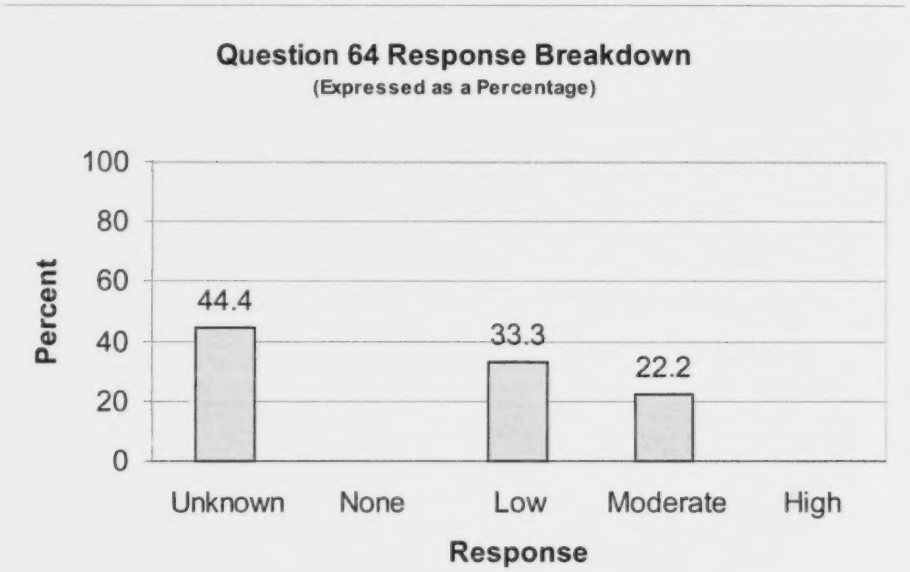
Results:



64. The FBC was asked to bring all the levels of government and interested parties together to develop initiatives to solve water quality issues on Shuswap Lake. How would you rate their effectiveness in this task?

Number of Respondents: 9

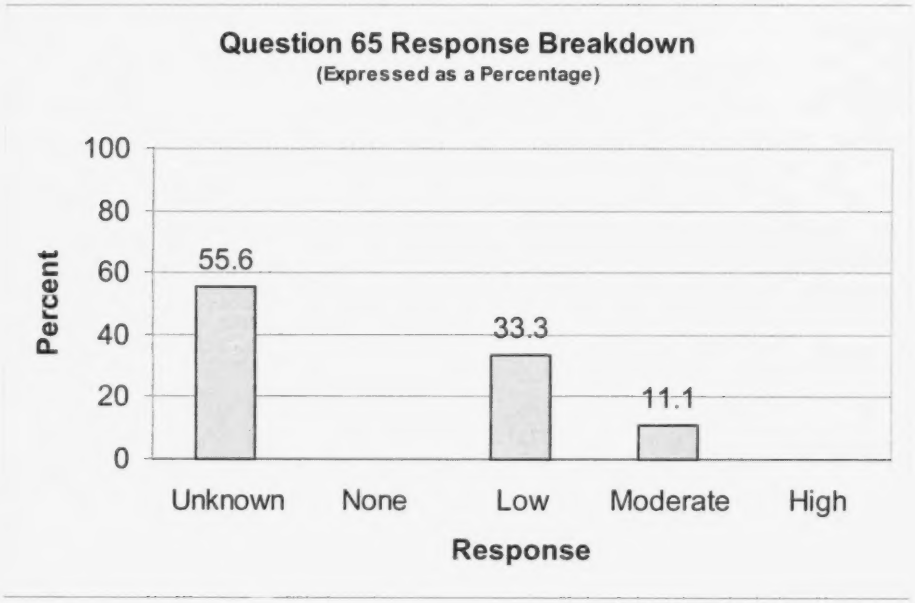
Results:



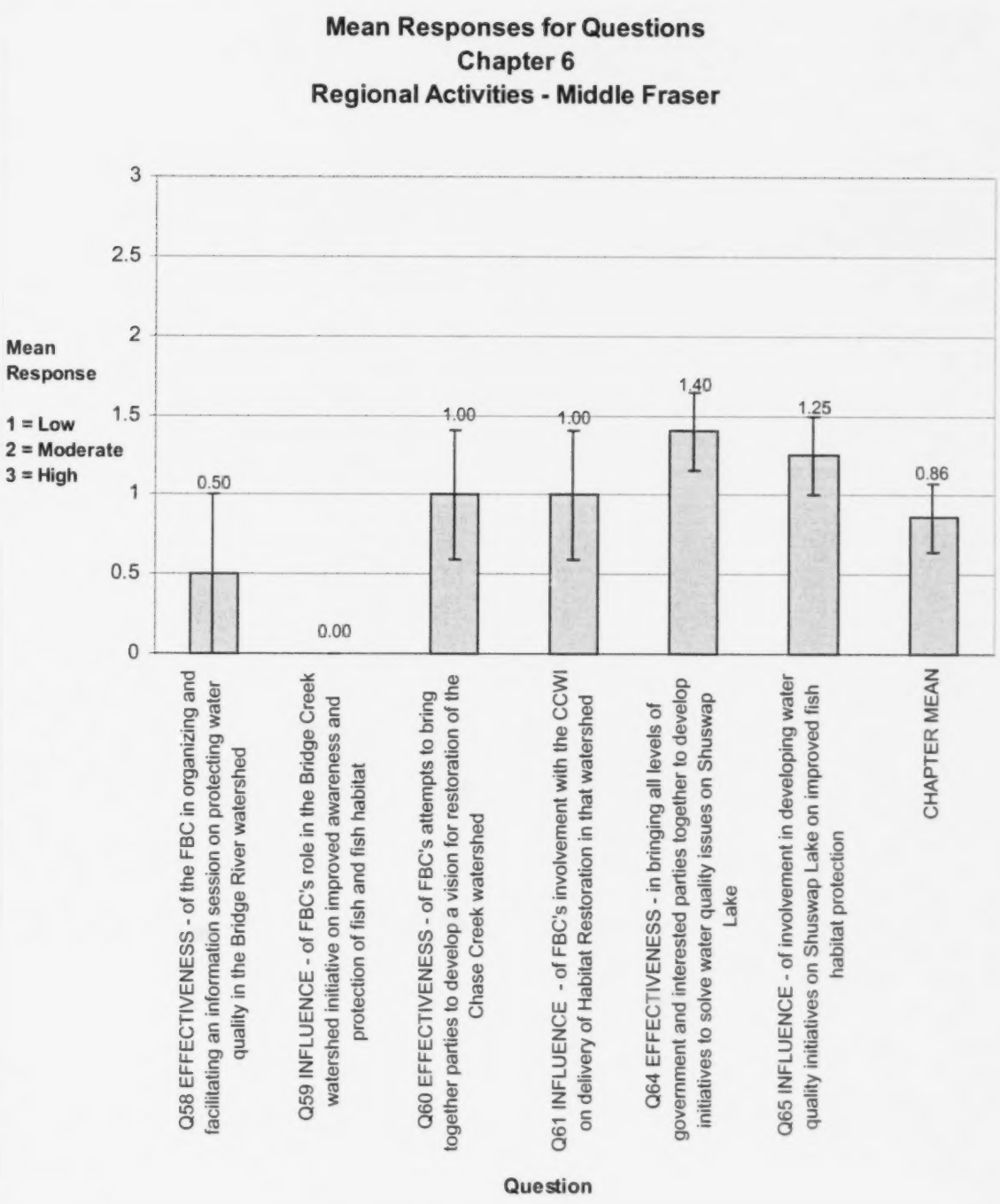
65. The FBC was asked to bring all the levels of government and interested parties together to develop initiatives to solve water quality issues on Shuswap Lake. Indicate the influence of their involvement in this task on improved fish habitat protection.

Number of Respondents: 9

Results:



3.71 Chapter Summary:


Mean Responses for Questions
Chapter 6
Regional Activities - Middle Fraser
Mean Response
1 = Low
2 = Moderate
3 = High
3
2.5
2
1.5
1
0.5
0
0.50
0.00
1.00
1.00
1.40
1.25
0.86
Q58 EFFECTIVENESS - of the FBC in organizing and facilitating an information session on protecting water quality in the Bridge River watershed
Q59 INFLUENCE - of FBC's role in the Bridge Creek watershed initiative on improved awareness and protection of fish and fish habitat
Q60 EFFECTIVENESS - of FBC's attempts to bring together parties to develop a vision for restoration of the Chase Creek watershed
Q61 INFLUENCE - of FBC's involvement with the CCWI on delivery of Habitat Restoration in that watershed
Q64 EFFECTIVENESS - in bringing all levels of government and interested parties together to develop initiatives to solve water quality issues on Shuswap Lake
Q65 INFLUENCE - of involvement in developing water quality initiatives on Shuswap Lake on improved fish habitat protection
CHAPTER MEAN
Question

Appendix 6

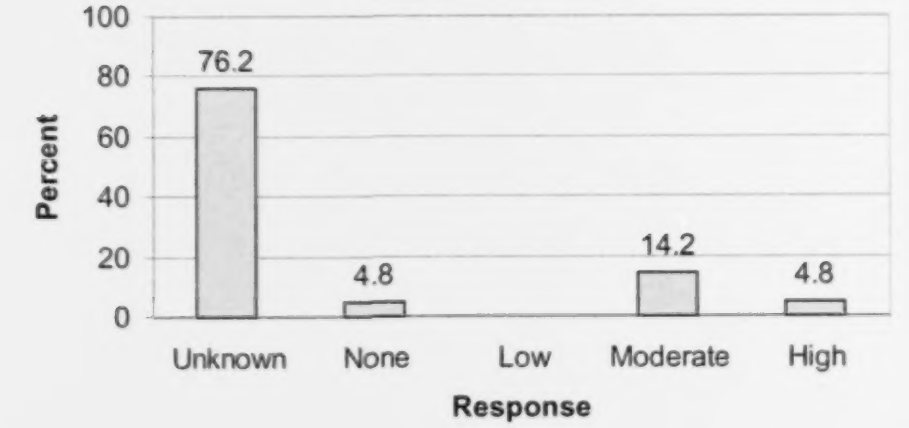
3.80 Chapter Seven: Regional Activities – Lower Fraser

Individual Question Summaries:

66. How would you rate the effectiveness of the FBC in providing active leadership in developing the Action Plan for Integrated Flood Hazard Management for the Fraser Basin?

Number of Respondents: 21

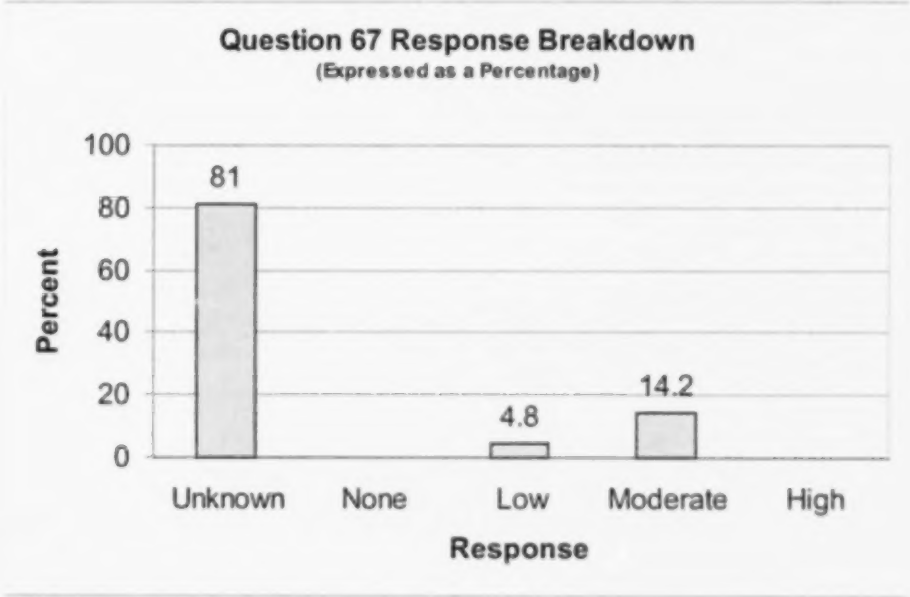
Results:



67. The FBC was involved in developing the Action Plan for Integrated Flood Hazard Management for the Fraser Basin. How would you rate the influence of this FBC activity upon improved fish habitat protection?

Number of Respondents: 21

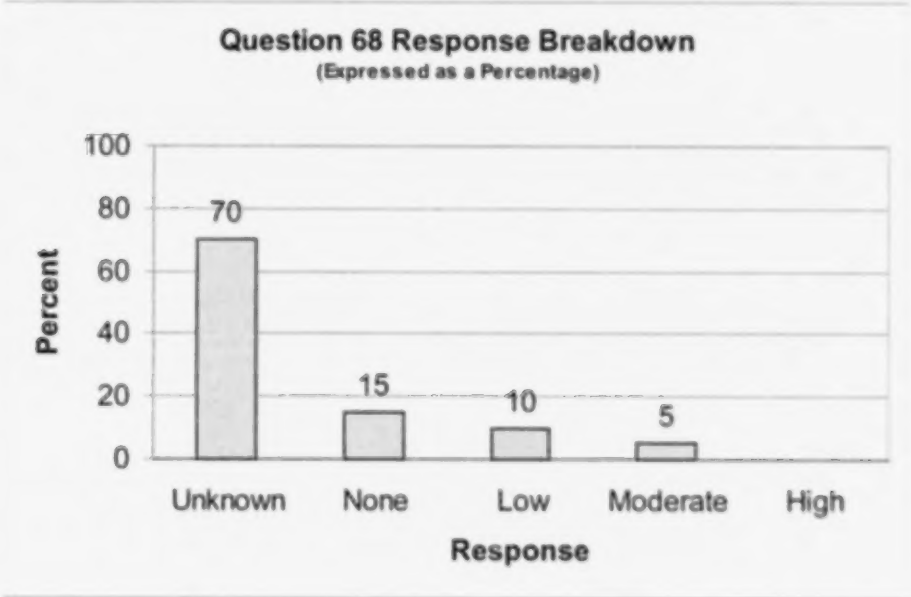
Results:



68. In January 1998, the provincial government requested the FBC facilitate the development of an integrated nutrient management plan for the lower Fraser Region. How would you rate the effectiveness of the FBC in this initiative?

Number of Respondents: 20

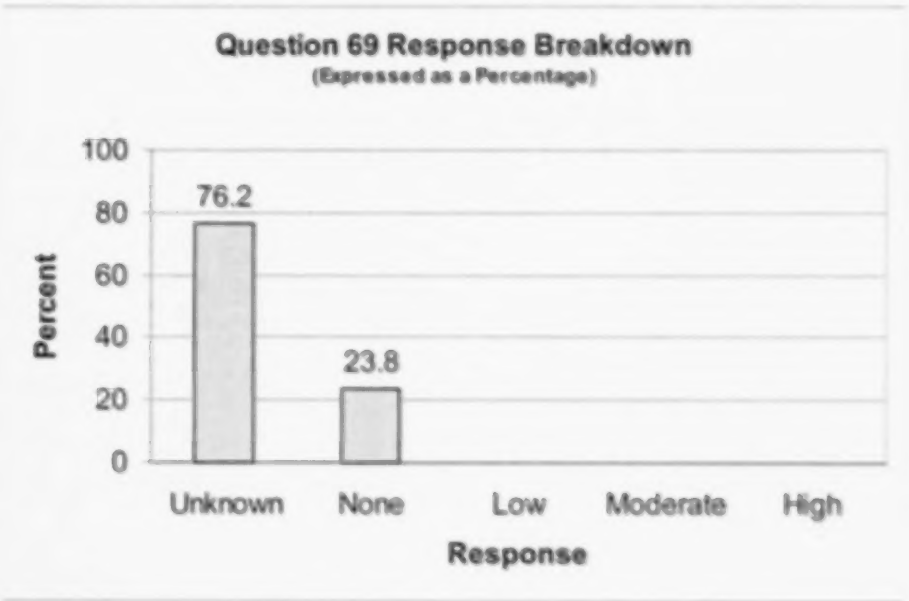
Results:



69. In January 1998, the provincial government requested the FBC facilitate the development of an integrated nutrient management plan for the lower Fraser Region. How would you rate the influence of this FBC activity on improved fish habitat protection?

Number of Respondents: 21

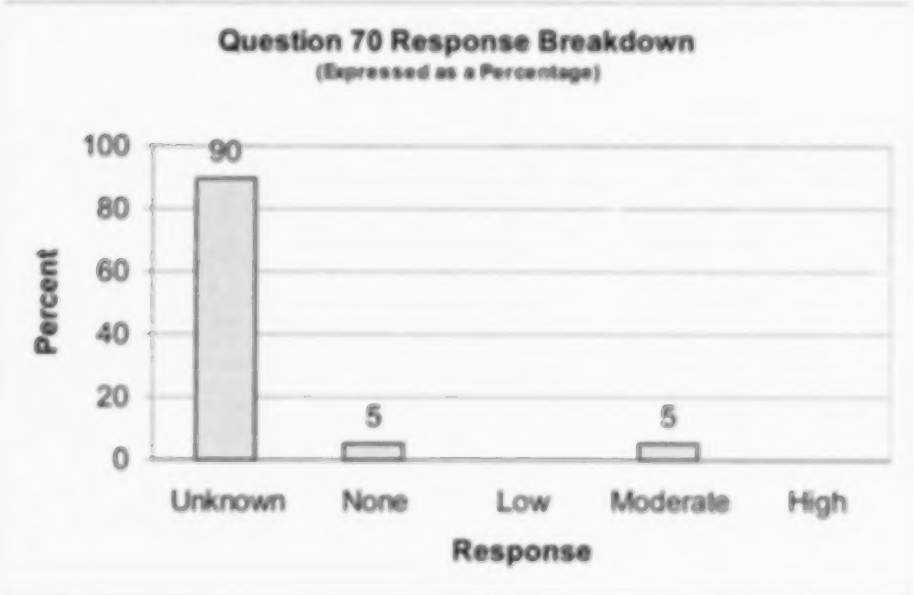
Results:



70. The Fraser Basin Council has provided funding towards, and is working with the Watershed Alliance of Chilliwack. How would you rate the effectiveness of the FBC in this activity (with respect to fish and fish habitat)?

Number of Respondents: 20

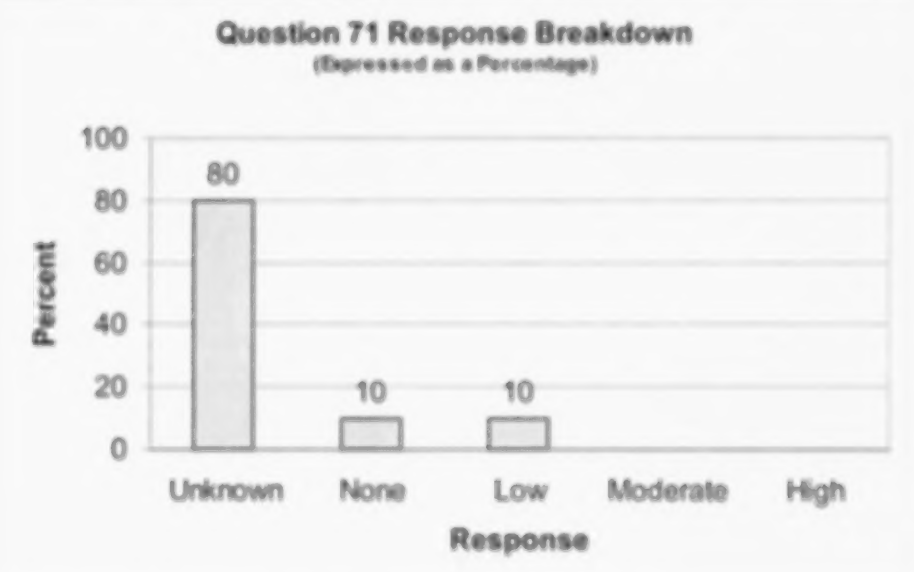
Results:



71. The Fraser Basin Council has been involved with the Stave Lake Water Use Plan. How would you rate the effectiveness of this FBC activity (with respect to fish and fish habitat)?

Number of Respondents: 20

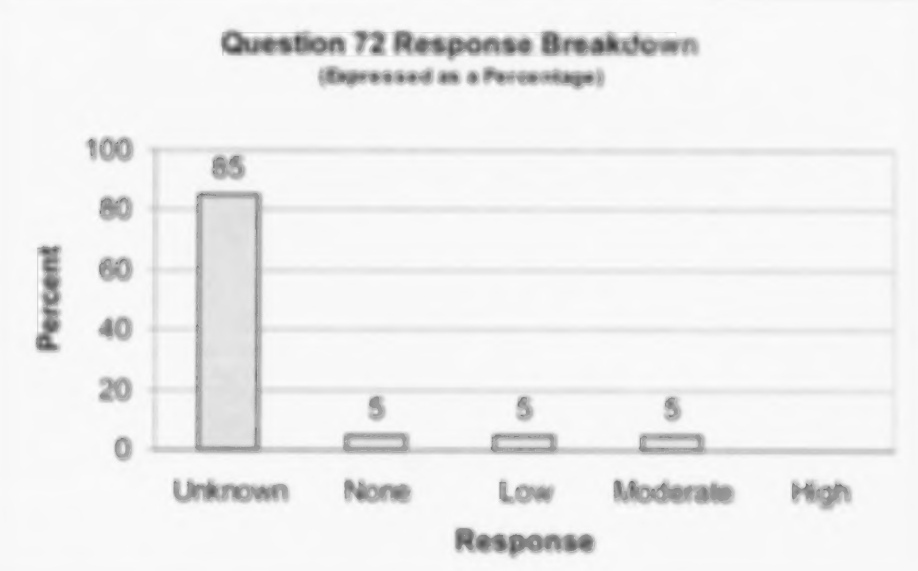
Results:



72. The Fraser Basin Council has been involved with the Fraser Valley Regional Watersheds Coalition. How would you rate the effectiveness of this FBC activity (with respect to fish and fish habitat)?

Number of Respondents: 20

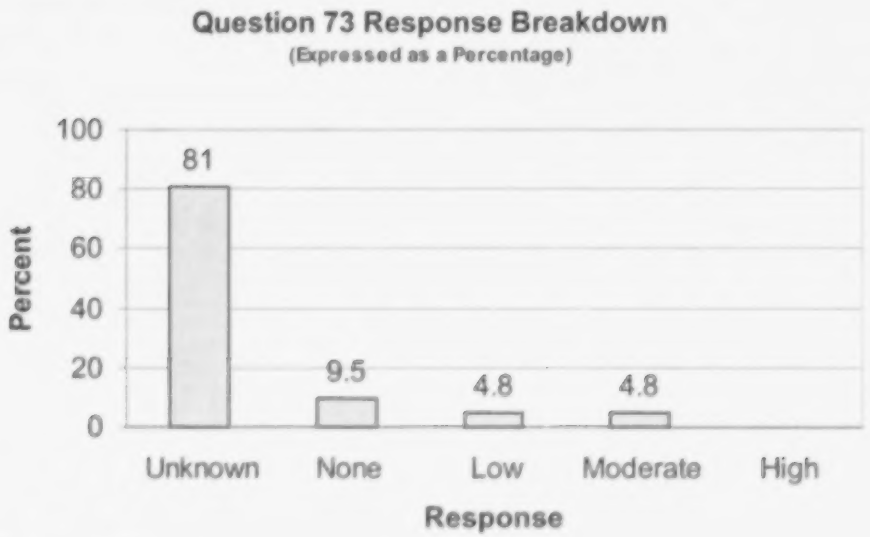
Results:



73. The Fraser Basin Council has been involved with the Lower Mainland Inter-Agency Management Committee (IAMC). How would you rate the effectiveness of this FBC activity (with respect to fish and fish habitat)?

Number of Respondents: 21

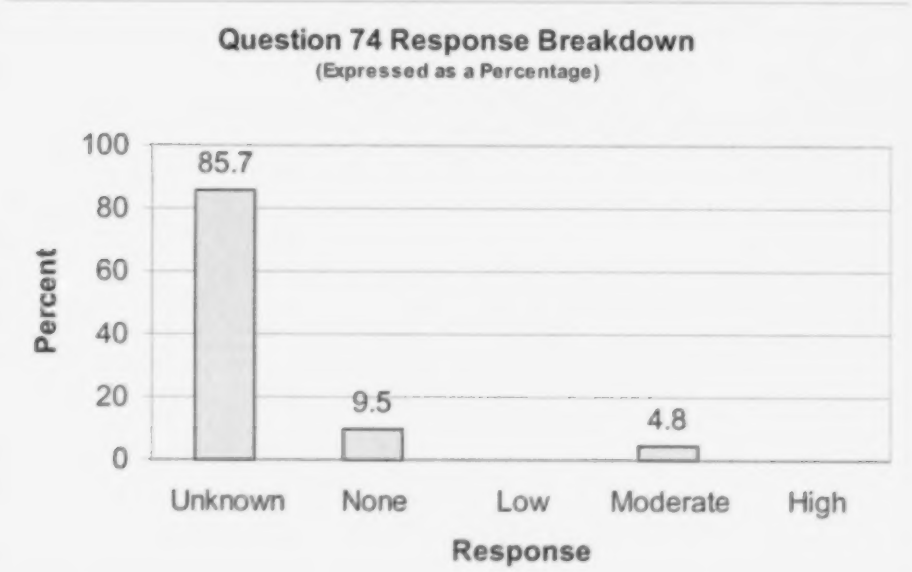
Results:



74. The Fraser Basin Council has been involved with the Lower Mainland Municipal Association Dyking Committee. How would you rate the effectiveness of this FBC activity (with respect to fish and fish habitat)?

Number of Respondents: 21

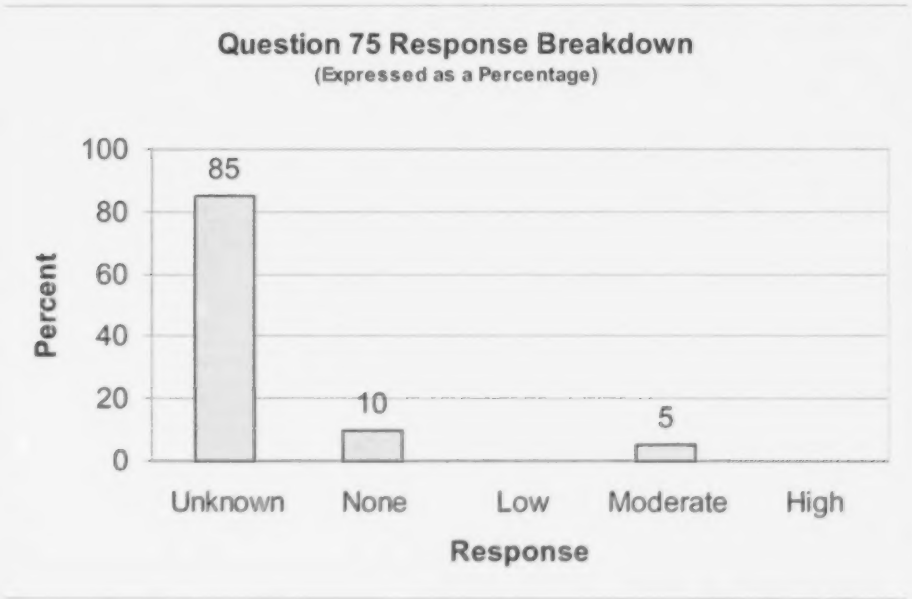
Results:



75. The Fraser Basin Council has been involved with the Abbotsford-Sumas Aquifer International Task Force. How would you rate the effectiveness of this FBC activity (with respect to fish and fish habitat)?

Number of Respondents: 20

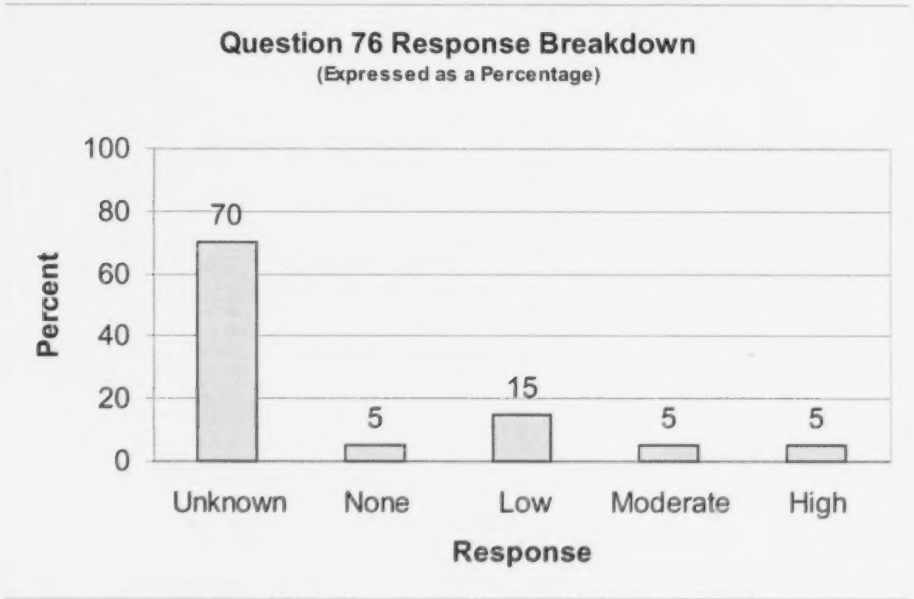
Results:



76. The Fraser Basin Council chaired the Alouette River Management Council (ARM) to work towards helping the District of Maple Ridge develop a watercourse protection bylaw. How would you rate the effectiveness of the FBC in this activity?

Number of Respondents: 20

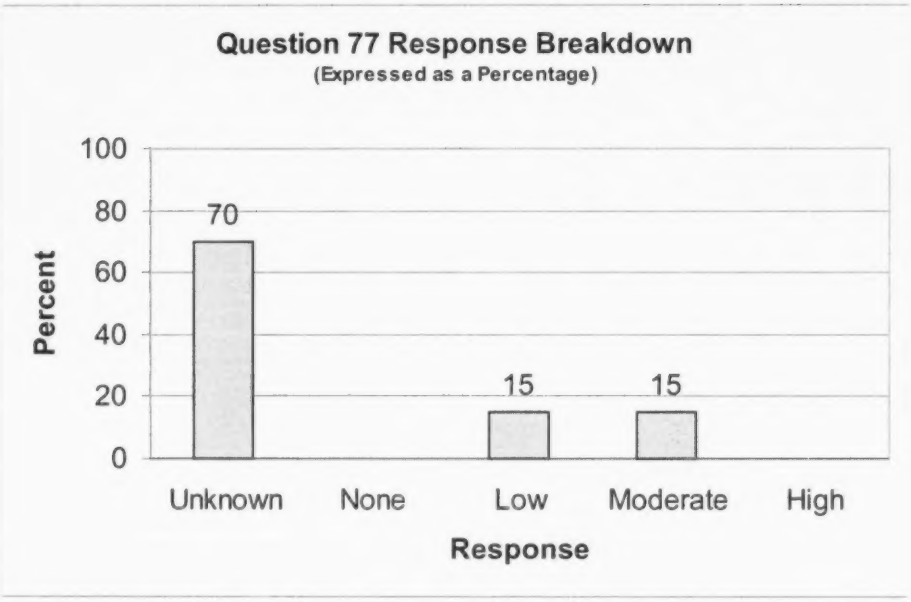
Results:



77. The Fraser Basin Council chaired the Alouette River Management Council (ARM) to work towards helping the District of Maple Ridge develop a watercourse protection bylaw. Indicate the influence of this FBC activity on improved fish habitat protection in the District of Maple Ridge?

Number of Respondents: 20

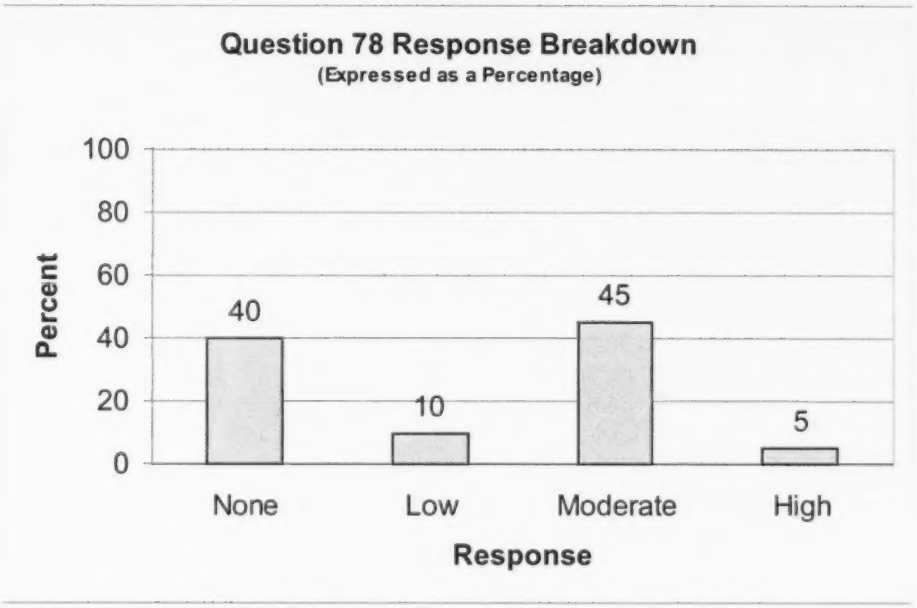
Results:



78. The FBC has been working jointly with the Fraser River Estuary Management Program on the controversial issue of gravel and sand removal from the Fraser River, including co-ordinating information exchange through workshops and facilitating the development of a management plan. How would you rate your awareness of this activity?

Number of Respondents: 20

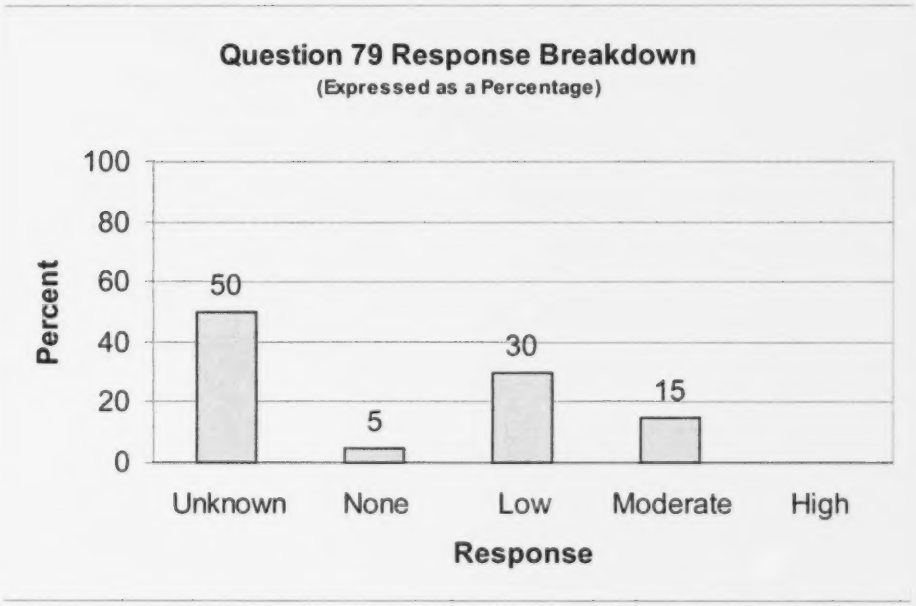
Results:



79. The FBC has been working jointly with the Fraser River Estuary Management Program on the controversial issue of gravel and sand removal from the Fraser River, including co-ordinating information exchange through workshops and facilitating the development of a management plan. Indicate the effectiveness of this FBC activity on improved fish habitat protection.

Number of Respondents: 20

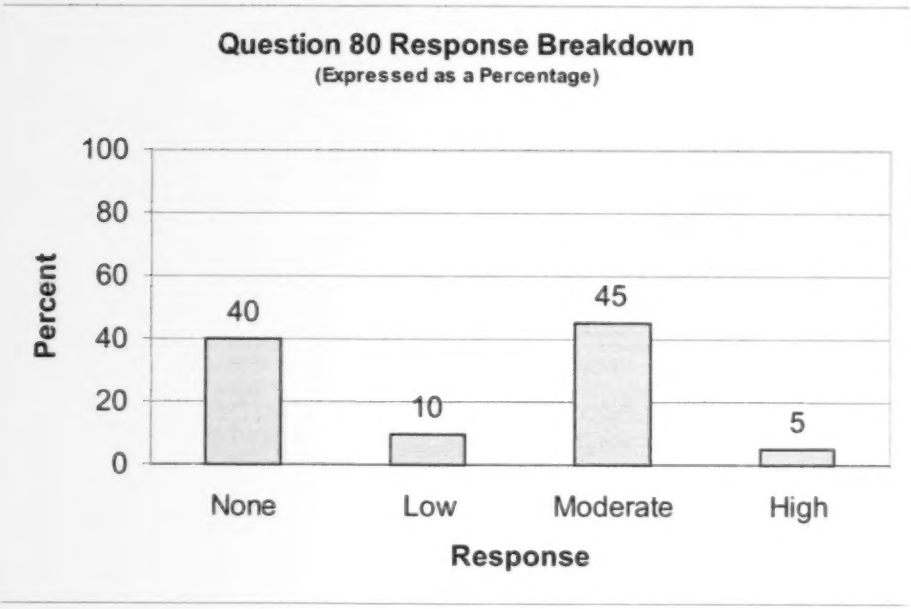
Results:



80. The FBC has been working on the development of a Watershed Snap Shot Guidebook to assess the health of any watershed. How would you rate your awareness of this FBC activity?

Number of Respondents: 21

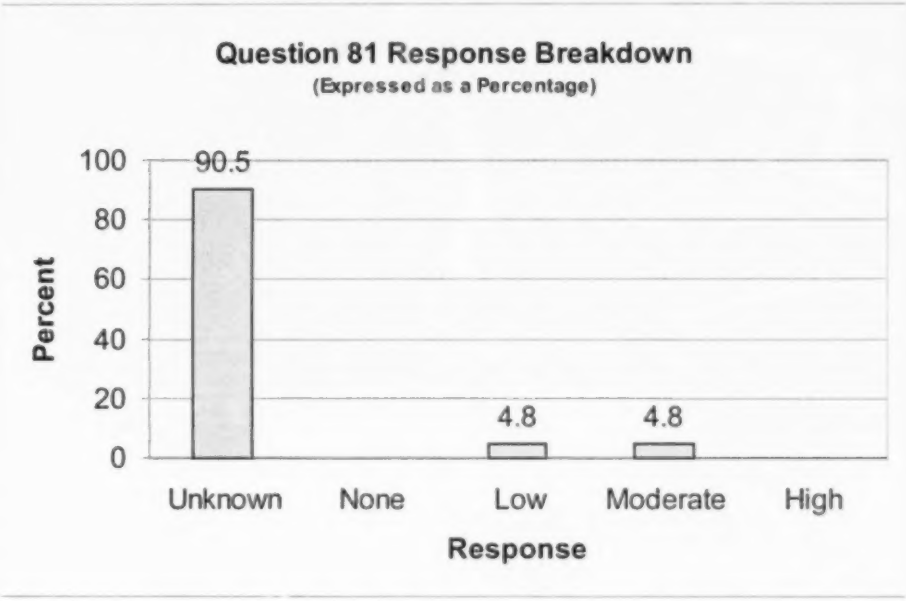
Results:



81. The FBC has been working on the development of a Watershed Snap Shot Guidebook to assess the health of any watershed. How would you rate the effectiveness of this FBC activity in raising awareness of fish and fish habitat?

Number of Respondents: 21

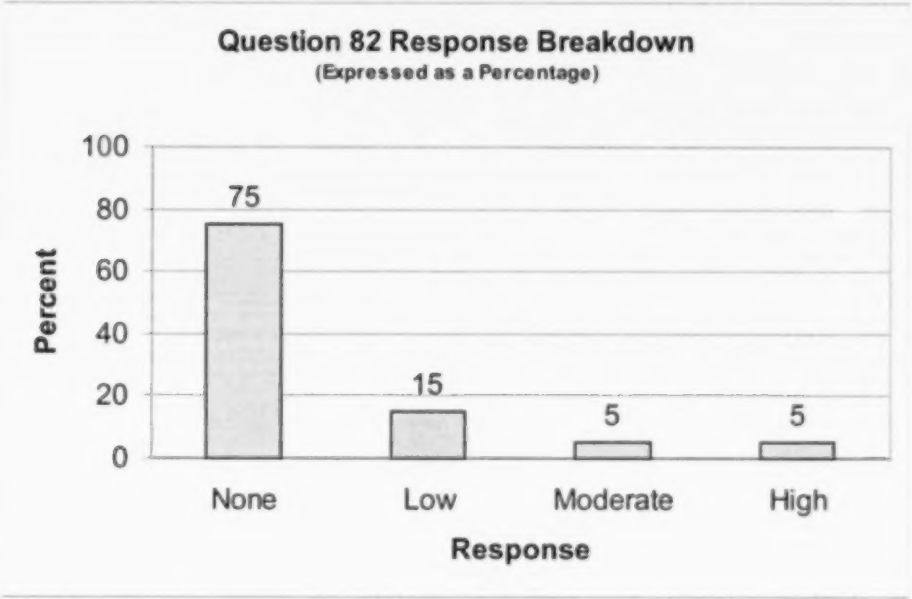
Results:



82. The FBC has been involved in issues of common interest with the Georgia Basin Ecosystem Initiative (GBEI), particularly in planning the Basin Forum, a workshop on Georgia Basin issues. How would you rate your awareness of this FBC activity?

Number of Respondents: 20

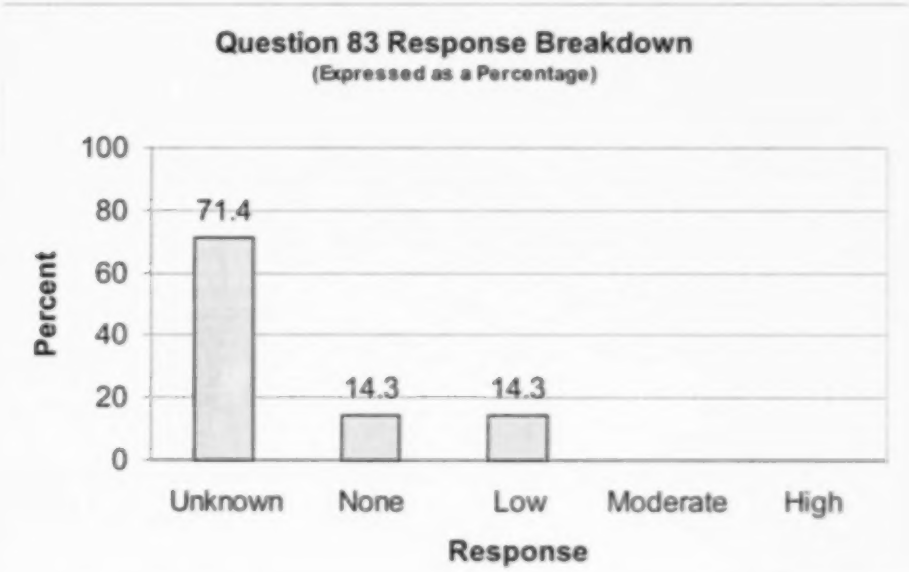
Results:



83. The FBC has been involved in issues of common interest with the Georgia Basin Ecosystem Initiative (GBEI), particularly in planning the Basin Forum, a workshop on Georgia Basin issues. Indicate the effectiveness of this FBC activity upon improved fish habitat protection and integrated resource planning?

Number of Respondents: 21

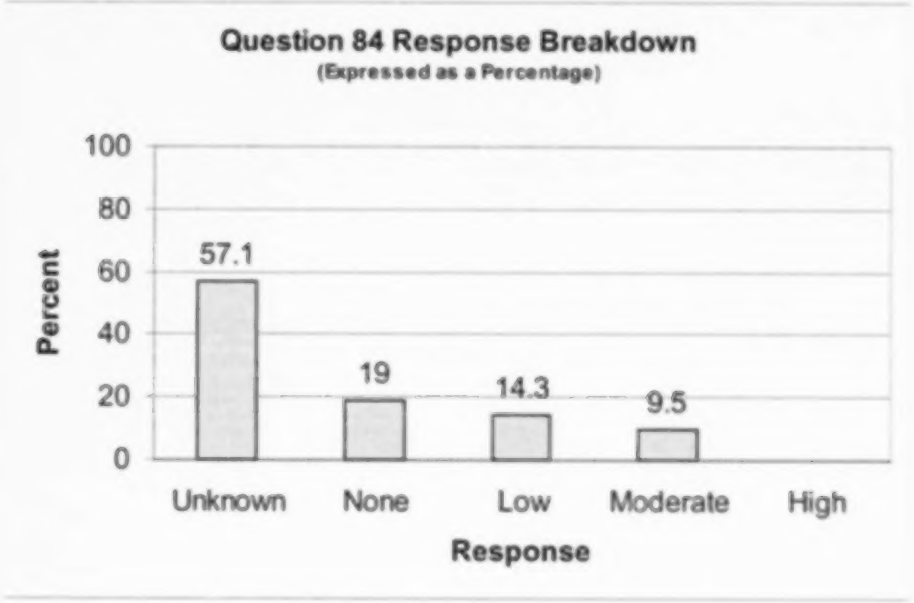
Results:



84. The FBC has been involved in the facilitation and co-ordination of the reclamation and remediation of the Britannia Mine. How would you rate the effectiveness of the FBC in this activity (with respect to fish and fish habitat)?

Number of Respondents: 21

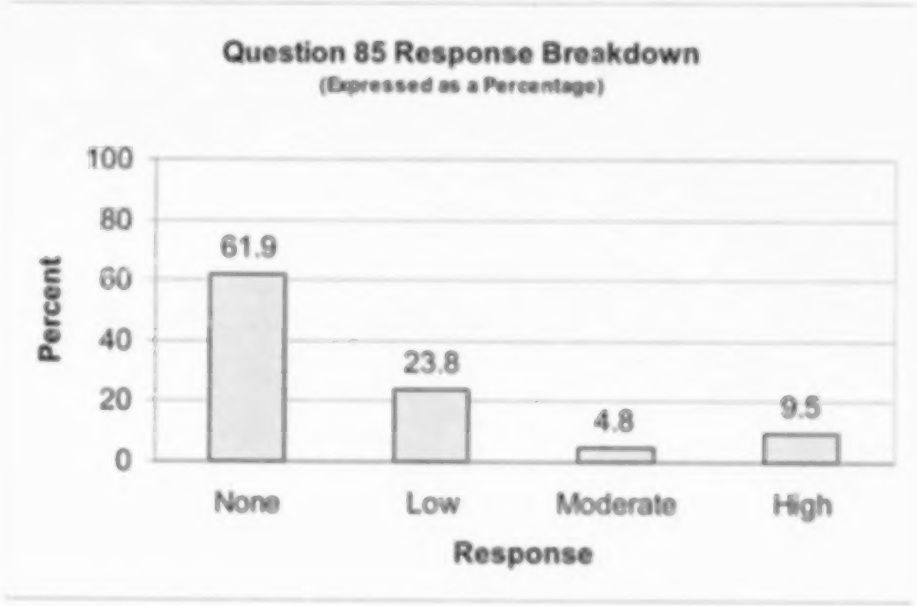
Results:



85. In November 1998, at the request of the Greater Vancouver Regional District, the FBC hosted a workshop consisting of federal, provincial, and local governments to discuss draft Streamside Protection Policy Directives being developed by the Province of British Columbia under the Fish Protection Act. How would you rate your awareness of the FBC's involvement in this activity?

Number of Respondents: 21

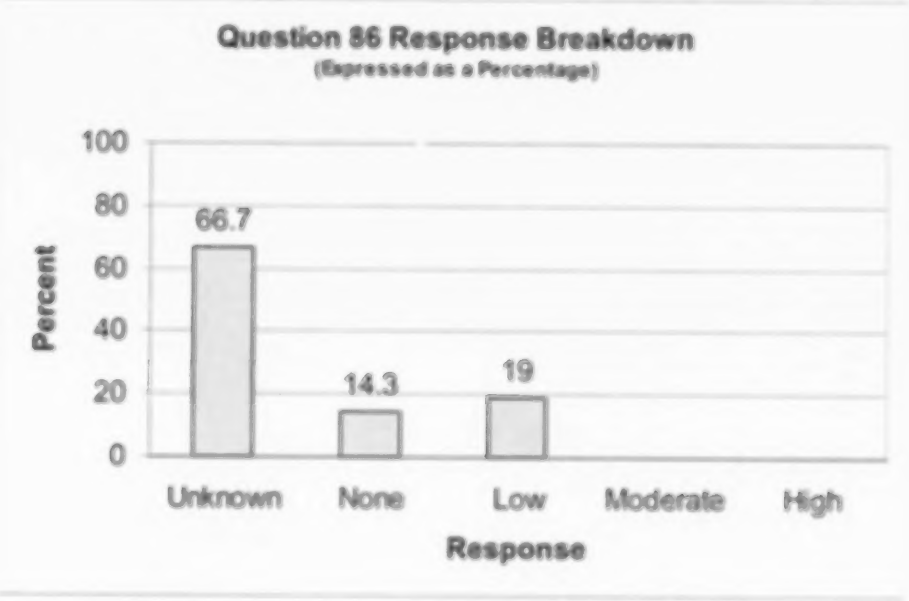
Results:



86. In November 1998, at the request of the Greater Vancouver Regional District, the FBC hosted a workshop consisting of federal, provincial, and local governments to discuss draft Streamside Protection Policy Directives being developed by the Province of British Columbia under the Fish Protection Act. Indicate the effectiveness of this FBC activity upon improved fish habitat protection.

Number of Respondents: 21

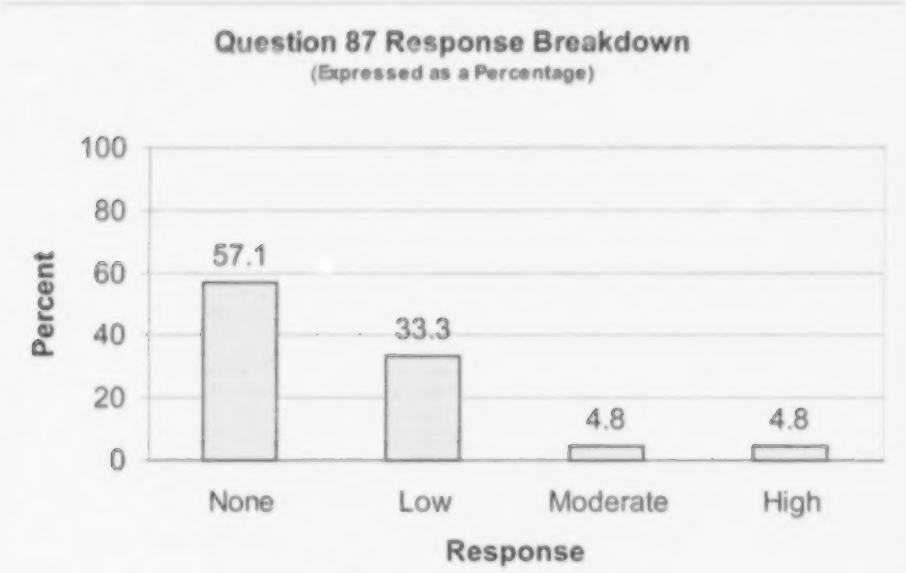
Results:



87. How would you rate your knowledge of the community watershed initiatives the FBC monitors and provides assistance to in the lower Fraser region?

Number of Respondents: 21

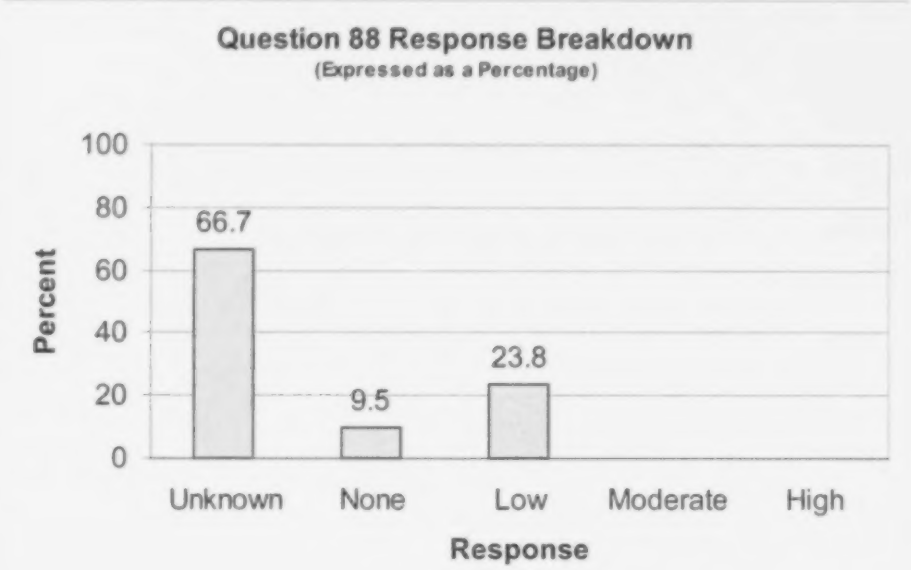
Results:



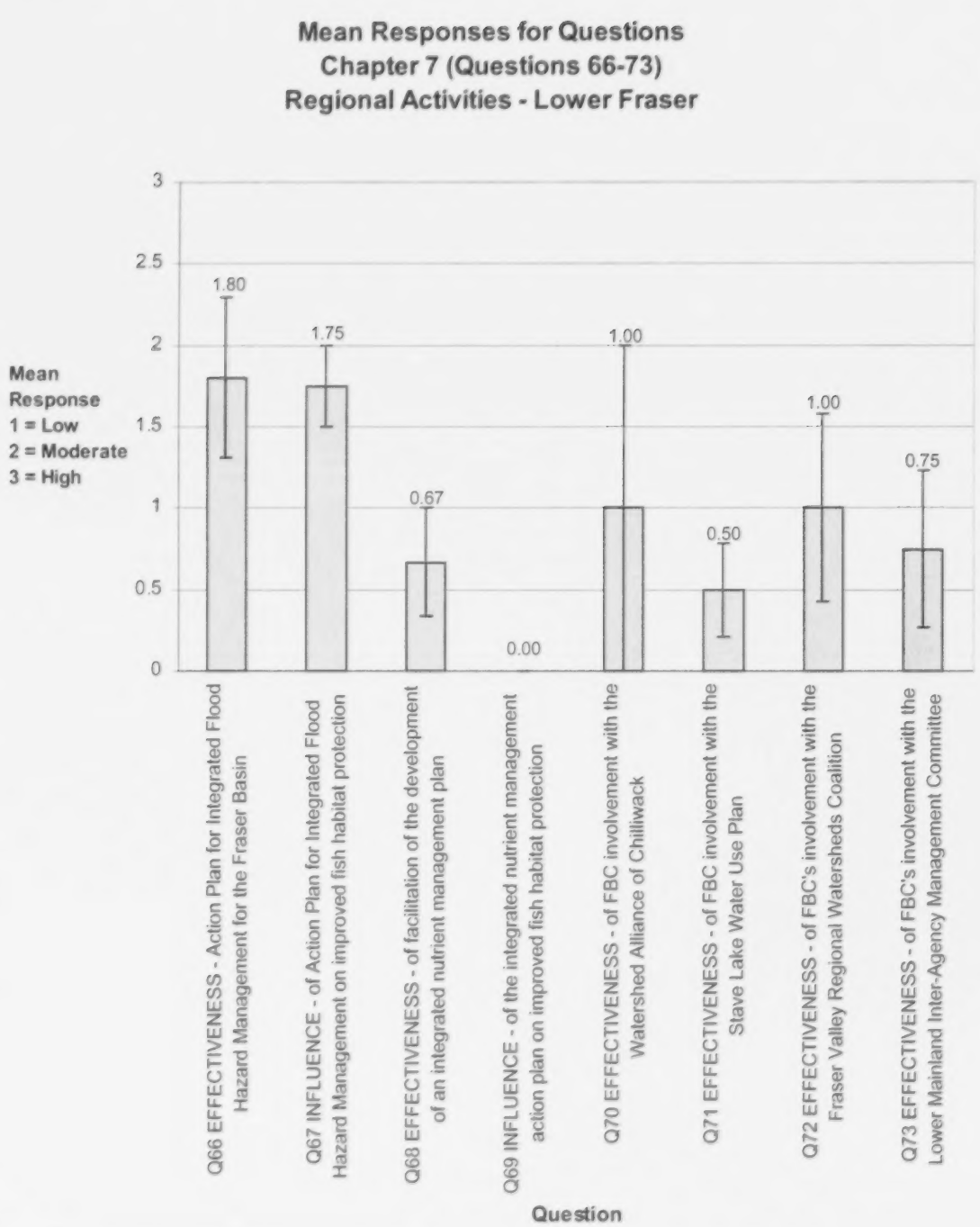
88. **The Fraser Basin Council monitors and provides some assistance to a number of community watershed initiatives in the lower Fraser region. How would you rate the effectiveness of this FBC activity (with respect to fish and fish habitat)?**

Number of Respondents: 21

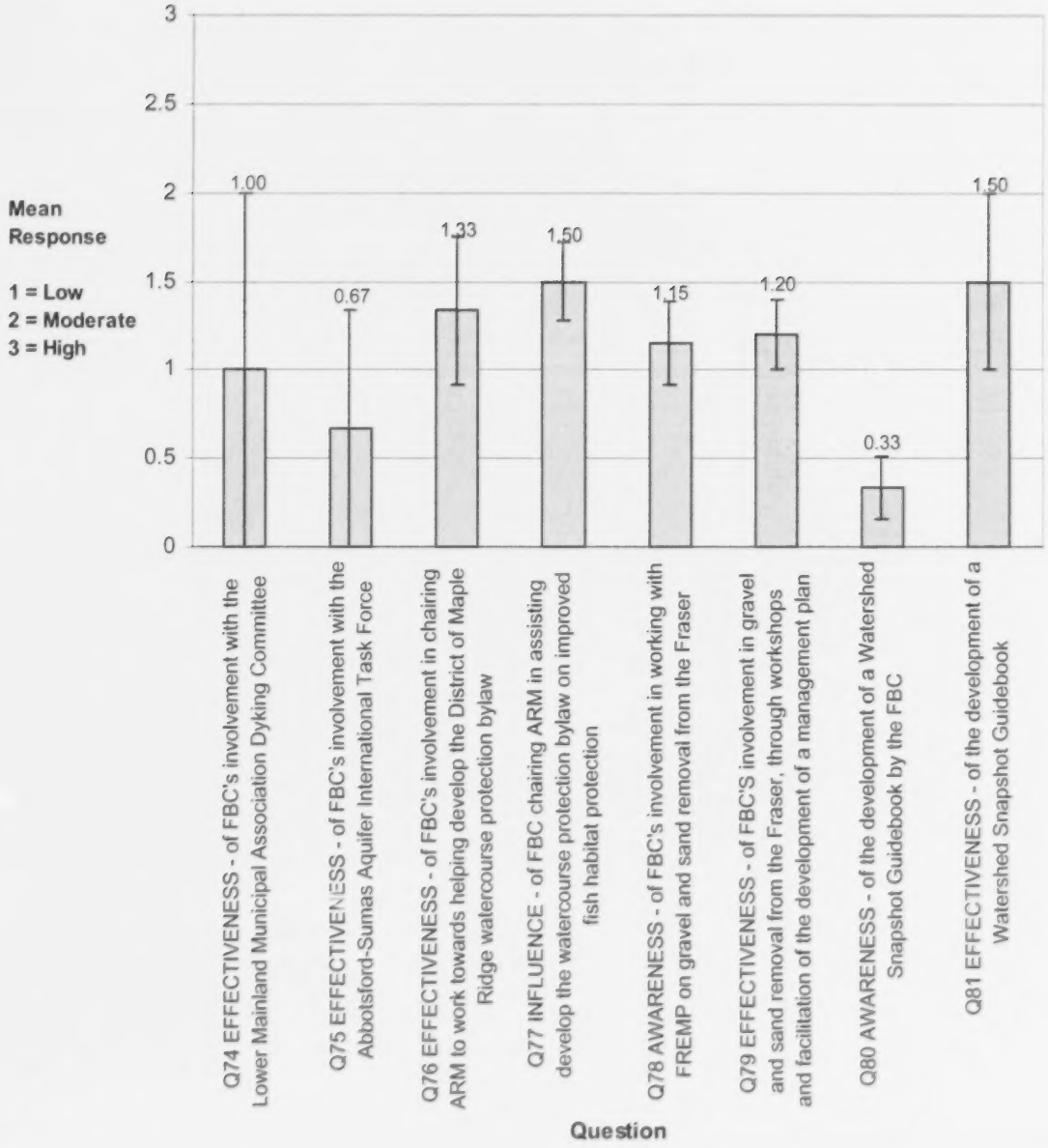
Results:



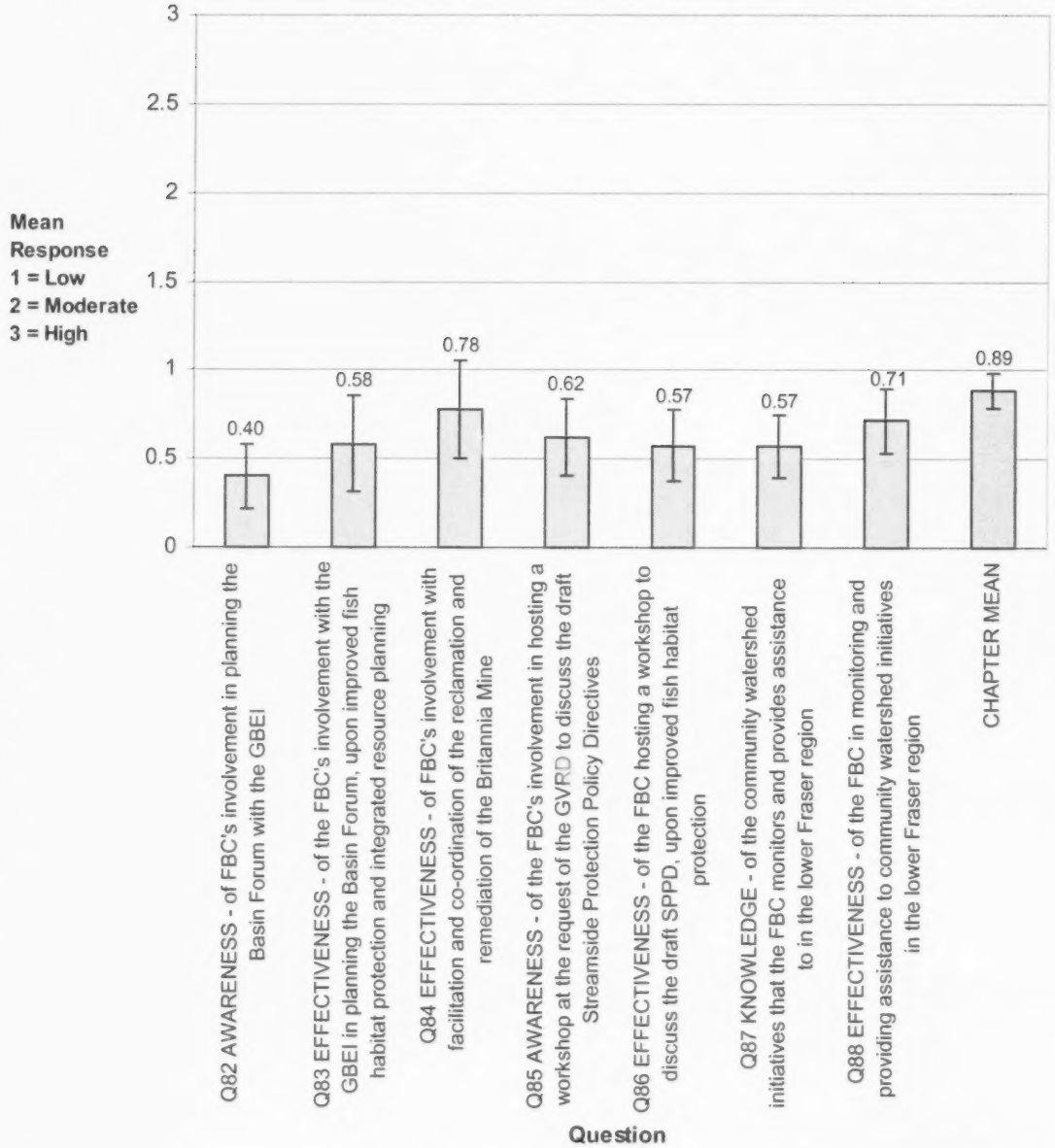
3.81 Chapter Summary:


Mean Responses for Questions
Chapter 7 (Questions 66-73)
Regional Activities - Lower Fraser
Mean Response
1 = Low
2 = Moderate
3 = High
3
2.5
2
1.5
1
0.5
0
1.80
1.75
0.67
0.00
1.00
0.50
1.00
0.75
Q66 EFFECTIVENESS - Action Plan for Integrated Flood Hazard Management for the Fraser Basin
Q67 INFLUENCE - of Action Plan for Integrated Flood Hazard Management on improved fish habitat protection
Q68 EFFECTIVENESS - of facilitation of the development of an integrated nutrient management plan
Q69 INFLUENCE - of the integrated nutrient management action plan on improved fish habitat protection
Q70 EFFECTIVENESS - of FBC involvement with the Watershed Alliance of Chilliwack
Q71 EFFECTIVENESS - of FBC involvement with the Stave Lake Water Use Plan
Q72 EFFECTIVENESS - of FBC's involvement with the Fraser Valley Regional Watersheds Coalition
Q73 EFFECTIVENESS - of FBC's involvement with the Lower Mainland Inter-Agency Management Committee
Question

Mean Responses for Questions
Chapter 7 (Questions 74-81)
Regional Activities - Lower Fraser


Mean Response
1 = Low
2 = Moderate
3 = High
3
2.5
2
1.5
1
0.5
0
1.00
0.67
1.33
1.50
1.15
1.20
0.33
1.50
Q74 EFFECTIVENESS - of FBC's involvement with the Lower Mainland Municipal Association Dyking Committee
Q75 EFFECTIVENESS - of FBC's involvement with the Abbotsford-Sumas Aquifer International Task Force
Q76 EFFECTIVENESS - of FBC's involvement in chairing ARM to work towards helping develop the District of Maple Ridge watercourse protection bylaw
Q77 INFLUENCE - of FBC chairing ARM in assisting develop the watercourse protection bylaw on improved fish habitat protection
Q78 AWARENESS - of FBC's involvement in working with FREMP on gravel and sand removal from the Fraser
Q79 EFFECTIVENESS - of FBC'S involvement in gravel and sand removal from the Fraser, through workshops and facilitation of the development of a management plan
Q80 AWARENESS - of the development of a Watershed Snapshot Guidebook by the FBC
Q81 EFFECTIVENESS - of the development of a Watershed Snapshot Guidebook
Question

Mean Responses for Questions
Chapter 7 (Questions 82-88 and Chapter Mean)
Regional Activities - Lower Fraser


Mean Response
1 = Low
2 = Moderate
3 = High
3
2.5
2
1.5
1
0.5
0
0.40
0.58
0.78
0.62
0.57
0.57
0.71
0.89
Q82 AWARENESS - of FBC's involvement in planning the Basin Forum with the GBEI
Q83 EFFECTIVENESS - of the FBC's involvement with the GBEI in planning the Basin Forum, upon improved fish habitat protection and integrated resource planning
Q84 EFFECTIVENESS - of FBC's involvement with facilitation and co-ordination of the reclamation and remediation of the Britannia Mine
Q85 AWARENESS - of the FBC's involvement in hosting a workshop at the request of the GVRD to discuss the draft Streamside Protection Policy Directives
Q86 EFFECTIVENESS - of the FBC hosting a workshop to discuss the draft SPPD, upon improved fish habitat protection
Q87 KNOWLEDGE - of the community watershed initiatives that the FBC monitors and provides assistance to in the lower Fraser region
Q88 EFFECTIVENESS - of the FBC in monitoring and providing assistance to community watershed initiatives in the lower Fraser region
CHAPTER MEAN
Question